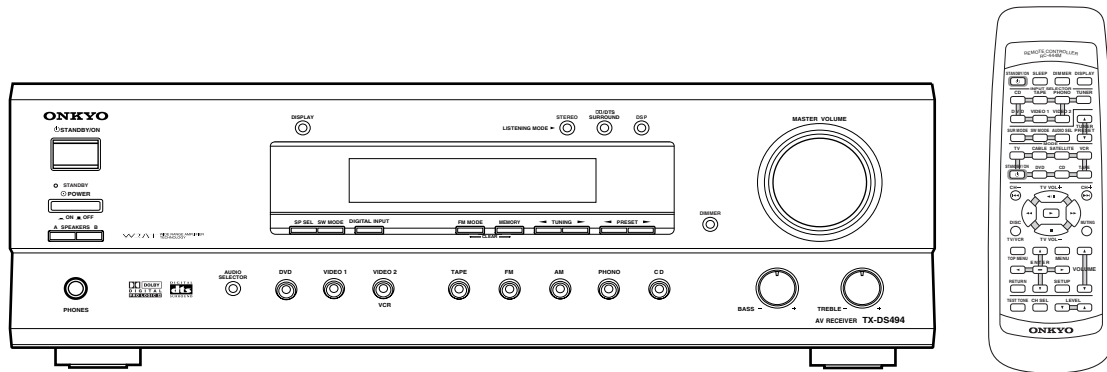


ONKYO® SERVICE MANUAL

AV RECEIVER

TX-DS494/HT-R490



TX-DS494

Black, Silver and Golden model


BMDD	120V AC, 60Hz
BMPP, SMPP, BMPA, GMPA	230-240V AC, 50Hz
BMWT, BMWR, GMWT, GMWR	120/220-230V AC, 50/60Hz
GMGT	220-230V AC 50/60Hz

HT-R490

Black model

120V AC, 60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK.

REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

SEPECIFICATIONS

AMPLIFIER SECTION

Continuous Average Power output (FTC)

All channels: **55 watts per channel min. RMS at 8 ohms, 2 channels driven from 20 Hz to 20 kHz with no more than 0.08% total harmonic distortion.**
70 watts min. RMS at 6 ohms, 2 channels driven from 1 kHz with no more than 0.1% total harmonic distortion.

Continuous Power output (DIN) 75 watts 5 at 6 ohms

Maximum Power output (EIAJ) 100 watts 5 at 6 ohms

Total Harmonic Distortion: 0.08% at rated power (Front)

IM Distortion: 0.08% at rated power (Front)

Damping Factor: 60 at 8 ohms (Front)

Input Sensitivity and Impedance

* PHONO: 2.5 mV, 50 kohms

LINE (CD, TAPE, DVD, VIDEO 1, 2): 200 mV, 50 kohms

MULTICHANNEL INPUT

(FRONT L/R, SURROUND L/R,

CENTER): 200 mV, 50 kohms

(SUBWOOFER): 36 mV, 50 kohms

DIGITAL 2 (COAXIAL): 0.5 Vp-p, 75 ohms

Output Level and Impedance

Rec out (TAPE, VIDEO 2): 200 mV, 2.2 kohms

Pre out (SUBWOOFER): 1 V, 2.2 kohms

* Phono Overload: 110 mV RMS at 1 kHz, 0.5% T.H.D.

Frequency Response: 20 Hz to 100 kHz, +1/-3 dB

RIAA Deviation: 20 Hz to 20 kHz, ± 0.8 dB

Tone Control

Bass: ± 10 dB at 50 Hz

Treble: ± 10 dB at 10 kHz

Signal-to-Noise Ratio

Phono: 80 dB (IHF-A, 5 mV input)

CD/Tape: 100 dB (IHF-A)

VIDEO SECTION

Input Sensitivity and Impedance

VIDEO (DVD, VIDEO 1, 2): 1 Vp-p, 75 ohms

S VIDEO (DVD, VIDEO 1, *2): 1 Vp-p, 75 ohms (Y)

0.28 Vp-p, 75 ohms (C)

Output Level and Impedance

VIDEO (VIDEO 2, MONITOR): 1 Vp-p, 75 ohms

S VIDEO (MONITOR): 1 Vp-p, 75 ohms (Y)

0.28 Vp-p, 75 ohms (C)

TUNER SECTION

FM

Tuning Range: 87.5-108.0 MHz (50 kHz steps)

Usable Sensitivity

Mono: 11.2 dBf, 1.0 μ V (75 ohms)

Stereo: 17.2 dBf, 2.0 μ V (75 ohms)

50 dB Quieting Sensitivity

Mono: 17.2 dBf, 2.0 μ V (75 ohms)

Stereo: 37.2 dBf, 2.0 μ V (75 ohms)

[NOTES]

* : TX-DS494 only

Capture Ratio: 2.0 dB

Image Rejection Ratio

North American models: 40 dB

Other models: 85 dB

IF Rejection Ratio: 90 dB

Signal-to-Noise Ratio

Mono: 76 dB

Stereo: 70 dB

Alternate Channel Attenuation: 55 dB

Selectivity: 50 dB (DIN)

AM Suppression Ratio: 50 dB

Total Harmonic Distortion

Mono: 0.2%

Stereo: 0.3%

Frequency Response: 30 Hz-15 kHz, ± 1.0 dB

Stereo Separation: 45 dB at 1 kHz

30 dB at 100 Hz-10 kHz

AM

Tuning Range

North American models: 530-1,710 kHz (10 kHz steps)

European & Australian models: 522-1,611 kHz (9 kHz steps)

Worldwide models: 531-1,602 kHz (9 kHz steps),

530-1,710 kHz (10 kHz steps)

Usable Sensitivity: 30 μ V

Image Rejection Ratio: 40 dB

IF Rejection Ratio: 40 dB

Signal-to-Noise Ratio: 40 dB

Total Harmonic Distortion: 0.7%

GENERAL

Power Supply:

AC 120 V, 60 Hz

AC 230-240 V, 50 Hz

AC 220-230 V and 120 V switchable,

50/60 Hz

Power Consumption:

3.4 A

260 W

Dimensions (W \times H \times D):

435 \times 150 \times 339 mm

17-1/8" 5-7/8" 13-3/8"

Weight

North American models: 9.7 kg, 21.4 lbs.

European & Australian models: 10.3 kg, 22.7 lbs.

Worldwide models: 10.9 kg, 24.0 lbs.

REMOTE CONTROL

Transmitter: Infrared

Signal range: Approx. 5 meters, 16 ft.

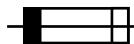
Power supply: Two "AA" batteries (1.5 V \times 2)

Specifications and features are subject to change without notice.

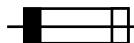
Power supply and voltage vary depending on the area in which the unit is purchased.

SERVICE PROCEDURES

1. Replacing the fuses



This symbol located near the fuse indicates that the fuse used is slow operating type. For continued protection against fire hazard, replace with same type fuse. For fuse rating, refer to the marking adjacent to the symbol.



Ce symbole indique que le fusible utilisé est à lent. Pour une protection permanente, n'utiliser que des fusibles de même type. Ce dernier est indiqué la où le présent symbole est apposé.

REF. NO.	PART NO.	DESCRIPTION
F911	252166	△ 6.3A-UL/T-237, Fuse <DD,WT,WR,490>
F922	252077 or 252243	△ 4A-SE-EAK or 4A-SE-TL250V, Fuse <PP,WT,WR,GT,PA>
F923	252075	△ 2.5A-SE-EAK, Fuse <PP>

[NOTE] <DD> : 120V model only
 <DT> : Asian model only for 120V
 <GT> : Asian model only for 230V
 <PP> : European model only
 <WT> : World wide model only
 <WR> : Chinese model only
 <490> : HT-R490 only

2. To initialize the unit

This device employs a microprocessor to perform various functions and operations. If interference generated by an external power supply, radio wave, or other electrical source results in accident which causes the specified operations and functions to operate abnormally.

To perform a result, please follow the procedure below.

1. Press and the hold down the VIDEO 1 button, then press the SPEAKER A button when the unit is Power ON.
2. After " CLEAR " is displayed, the preset memory and each mode stored in the memory, are initialized and will return to the factory settings.

3. Safety-check out

(Only U.S.A. model)

After correcting the original service problem perform the following safety check before releasing the set to the customer. Connect the insulating-resistance tester between the plug of power supply cord and terminal GND on the back panel. Specifications: More than 10Mohm at 500V

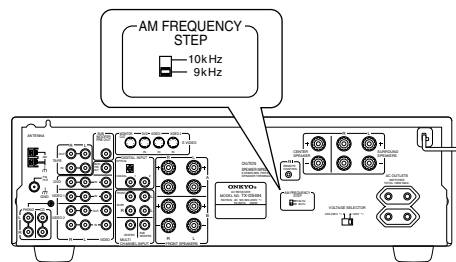
4. Memory Preservation

This unit does not require memory preservation batteries. A built-in memory power back-up system preserves the contents of the memory during power failures and even when the unit is unplugged. The unit must be plugged in order to charge the back-up system.

The memory preservation period after the unit has been unplugged varies depending on climate and placement of the unit. On the average, memory contents are protected over a period of a few weeks after the last time the unit has been unplugged. This period is shorter when the unit is exposed to a highly humid climate.

5. Setting the AM tuning step frequency (World wide models only)

Worldwide models are equipped with a switch that controls the AM band tuning step. Please set this switch to match the AM band tuning step frequency in your area.

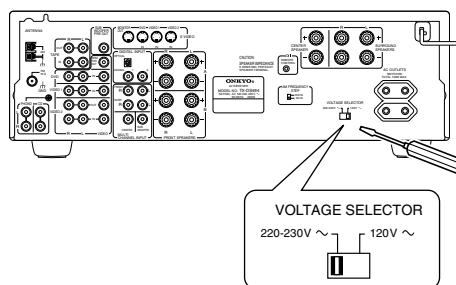


6. Setting the voltage selector (Worldwide models only)

World models are equipped with a voltage selector conform with local power supplies. Be sure to set this switch to match the voltage of the power supply in your area before plugging in the unit.

Determine the proper voltage for your area: 230V or 120V.

If the preset voltage is not correct for your area, insert a screwdriver into the groove in the switch. Slide the switch all the way to the right (120V) or to the left (220V-230V), whichever is appropriate.



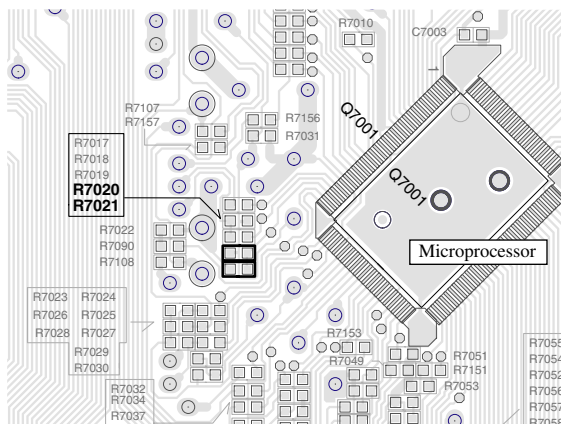
7. Changing the AM band step

With the exception of the worldwide models, a tuning step selector switch is not provided. When you change the band step, change the parts as shown below.

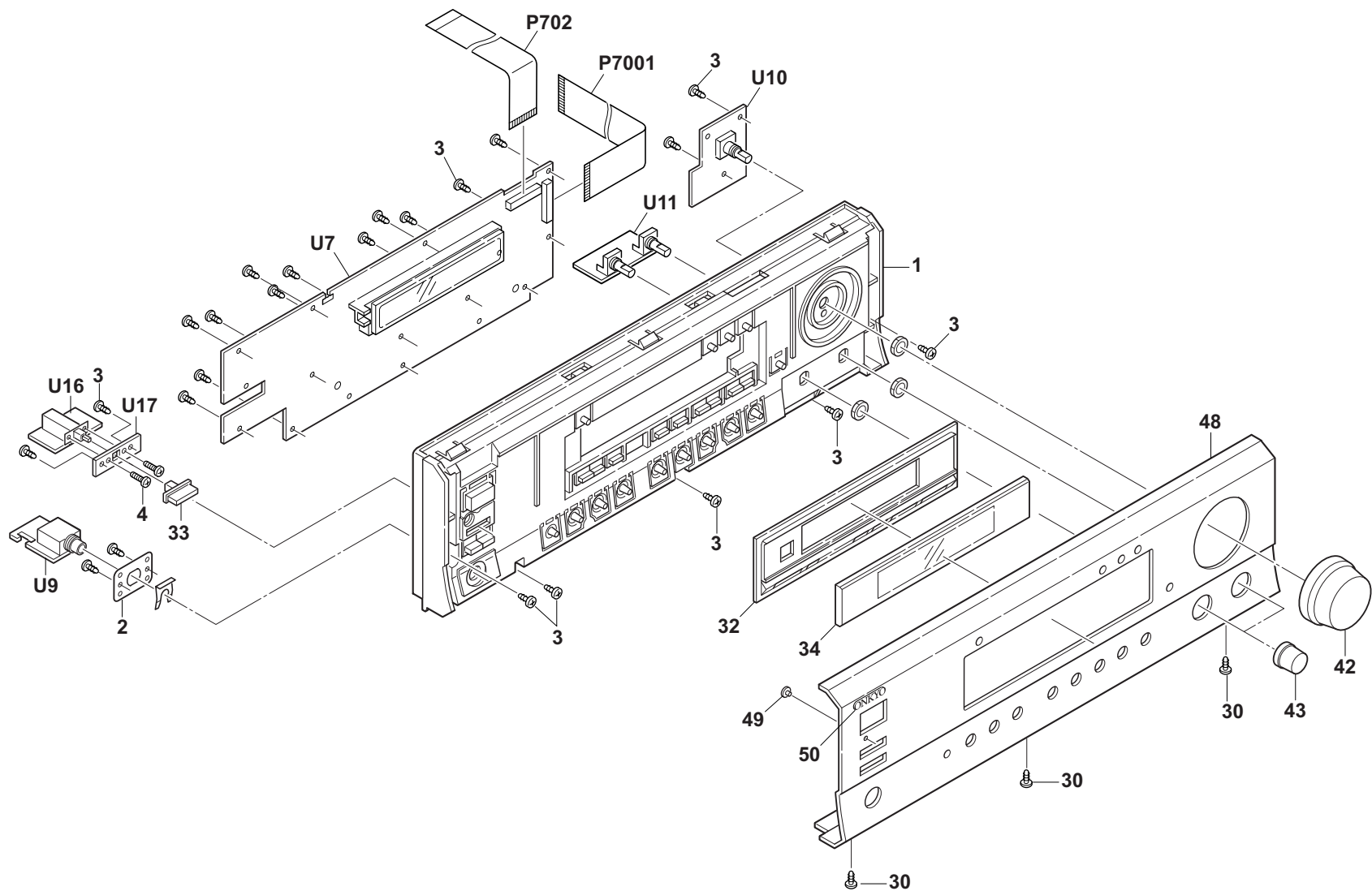
	To 10kHz	To 9kHz
R7020	Open	10k
R7021	10kohm	8.2kohm

NADIS-7043 (Display circuit PC board)

From soldering side



EXPLODED VIEW-2
FRONT PART



EXPLODED VIEW PARTS LIST-1

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	27111200	Front bracket 	45	27122810	Rear panel <DD>
	27111201	Front bracket <S>		27122811	Rear panel <PP>
	27111202	Front bracket <G>		27122813	Rear panel <WT>
2	27141787	Retainer, HP		27122814	Rear panel <WR>
3	838130088	3TTB+8B, Self tapping screw		27122815	Rear panel <PA>
4	82143010	3P+10FN(BC), Self tapping screw		27122812	Rear panel <GT>
6	27100368B	Chassis		27122824A	Rear panel <490>
7	27190266	KGLS-12RF, Holder	46	87643010	W3*10F(BC), Flat washer
8	27190428A	KGLS-10RF, Holder	47	838930088	3TTB+8B(UN), Self tapping screw
9	27190813	KGPS-10RF, Holder	48	27212285	Front panel <DD, WT, WR, PA>
12	830440089	4TTC+8C(BC), Self tapping screw		27212286	Front panel <PP>
14	27300750	△ Bushing, cord #2271 <DD,PP,WR,WT, PA,GT>		27212287	Front panel <S> <PP>
15	27160435	Heat sink L		27212288	Front panel <G> <PA, WR, WT, GT>
17	801433	3SMS8W.SW+14B(BC), Special screw		27212292	Front panel <490>
18	27141681	Retainer, PWB	49	28198778	Facet
20	27141735	Retainer, Rear	50	28135244	Badge
21	27141734	Retainer, Front		28135245	Badge <S,G>
24	27160436A	Heat sink S	D910	22380038 or	RBV602 or
25	82143010	3P+10FN(BC) Pan head screw		22380274	RS603M, Diode
26	29362772	Label, cover	E811	223024	Isolated sheet, AC238
27	27141729	Retainer, S	E891	880048	P-3055B-8L, Plastic rivet
28	838430068	3TTB+6B(BC), Self tapping screw	F911	252166	△ 6.3A-UL/T-237, Fuse <DD,WT,WR,490>
29	29110083	Tape, Cross-16U	F922	252077 or	△ 4A-SE-EAK or
32	27215357	Decorative frame 		252243	△ 4A-SE-TL250V, Fuse <PP,WT,WR,GT,PA>
	27215359	Decorative frame <S>		252075	△ 2.5A-SE-EAK, Fuse <PP>
	27215358	Decorative frame <G>	F923	252075	
33	28325497A	Knob, power 	P101	2047151512	NCFC7-151512, Flexible flat cable
	28325547A	Knob, power <S>	P7001	2047252012	NCFC7-252012, Flexible flat cable
	28325499A	Knob, power <G>	P702	2047202022	NCFC7-202022, Flexible flat cable
34	28191911	Clear plate 			
	28191912	Clear plate <S,G>			
36	28184663-1	Top cover 			
	28184666	Top cover <S>			
	28184682	Top cover <G>			
37	28141408	Cushion			
38	838430088	3TTB+8B(BC), Self tapping screw 			
	838930088	3TTB+8B(UN), Self tapping screw <S, G>			
39	27175319A	Leg			
40	28141332	Cushion, leg			
41	831430088	3TTW+8B(BC), Self tapping screw			
42	28325641	Knob, Volume 			
	28325642	Knob, Volume <S>			
	28325643	Knob, Volume <G>			
43	28325405	Knob, tone 			
	28325474	Knob, tone <S>			
	28325407	Knob, tone <G>			
44	27191130	Holder, outlet <WR>			

[NOTE]

<DD>: 120V model only
 <DT>: Asian model only for 120V
 <GT>: Asian model only for 230V
 <PP>: European model only
 <WT>: World wide model only
 <WR>: Chinese model only
 <494>: TX-DS494 only
 <490>: HT-R490 only
 : Black model only
 <S>: Silver model only
 <G>: Golden model only

NOTE: THE COMPONENTS IDENTIFIED BY MARK △
ARE CRITICAL FOR RISK OF FIRE AND
ELECTRIC SHOCK. REPLACE ONLY WITH
PART NUMBER SPECIFIED.

EXPLODED VIEW PARTS LIST-2

REF. NO.	PART NO.	DESCRIPTION
P901	253279HIT	△ AS-UC-2#18 or
	253280VOL	△ AS-UC-2#18 <DD>
	253306VOL or	△ AS CEE-2 or
	253193HIT	△ AS-CEE <PP, GT>
	253197HIT or	△ AS-SAA or
	253307VOL	△ AS-SAA <PA>
	253233KAW or	△ AS-CEE-2 or
	253306VOL	△ AS-CEE-2 <WT>
	253267KAW,	△ AS-CCEE,
	253285HIT or	△ AS-CCEE or
	253286VOL	△ AS-CCEE <WR>
Q523, Q524 ,	2202253 or	* 2SC4467-O or
Q1512	2202254 or	* 2SC4467-Y or
Q623, Q624	2202256 or	* 2SC4467-P or
	2203042 or	* 2SC5197-R or
	2203043 or	* 2SC5197-O or
	2203502 or	* KTD718-R or
	2203503	* KTD718-O, Transistor
Q525, Q526 ,	2202243 or	* 2SA1694-O or
Q1513	2202244 or	* 2SA1694-Y or
Q625, Q626	2202246 or	* 2SA1694-P or
	2203032 or	* 2SA1940-R or
	2203033 or	* 2SA1940-O or
	2203492 or	* KTB688-R or
	2203493	* KTB688-O, Transistor
Q517, Q518	2212654 or	* 2SC3421-Y or
	2212653	* 2SC3421-O, Transistor
Q921	222780125	78M12HF, IC
Q922	222790125	79M12HF, IC
Q933	222780055	78M05HF, IC
T901	2301438	△ NPT-1384D, Power transformer <DD, 490>
	2301440	△ NPT-1384P, Power transformer <PP, PA>
	2301441	△ NPT-1384DG, Power transformer <WT, WR, GT>

CAUTION : Replacement of the transistor of mark *, if necessary, must be made from the same beta group(HFE) as the original type.

[NOTE]

<DD> : 120V model only
 <DT> : Asian model only for 120V
 <GT> : Asian model only for 230V
 <PP> : European model only
 <WT> : World wide model only
 <WR> : Chinese model only
 <494> : TX-DS494 only
 <490> : HT-R490 only

 : Black model only
 <S> : Silver model only
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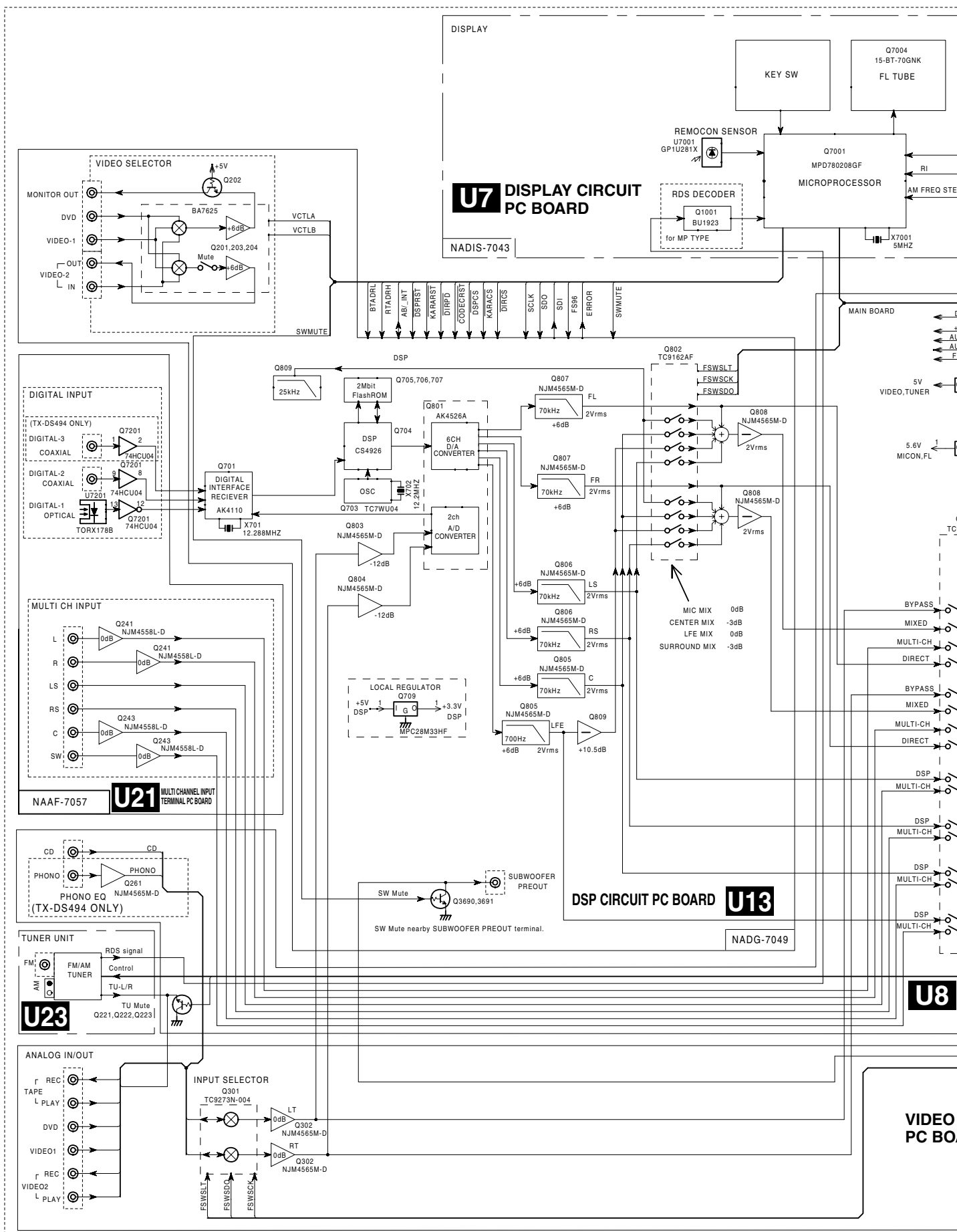
REF. NO.	PART NO.	DESCRIPTION
U1	1A865589-2A	NAAF-6789-2A, Front channel power amplifier PC board ass'y <DD>
	1A865589-2B	NAAF-6789-2B, Front channel power amplifier PC board ass'y <PP,PA, GT>
	1A865589-2C	NAAF-6789-2C, Front channel power amplifier PC board ass'y <490>
	1A865589-2D	NAAF-6789-2D, Front channel power amplifier PC board ass'y <WT, WR>
U2	1A865590-2A	NAAF-6790-2A, Surround channel power amplifier PC board ass'y <DD>
	1A865590-2B	NAAF-6790-2B, Surround channel power amplifier PC board ass'y <PP,PA, GT>
	1A865590-2C	NAAF-6790-2C, Surround channel power amplifier PC board ass'y <490>
	1A865590-2D	NAAF-6790-2D, Surround channel power amplifier PC board ass'y <WT, WR>
U3	1A865591-2A	NAETC-6791-2A, Front speaker terminal PC board ass'y <DD>
	1A865591-2B	NAETC-6791-2B, Front speaker terminal PC board ass'y <PP,PA, GT>
	1A865591-2C	NAETC-6791-2C, Front speaker terminal PC board ass'y <490>
	1A865591-2D	NAETC-6791-2D, Front speaker terminal PC board ass'y <WT, WR>
U4	1A865592-2A	NAETC-6792-2A, Surround speaker terminal PC board ass'y <DD>
	1A865592-2B	NAETC-6792-2B, Surround speaker terminal PC board ass'y <PP,PA, GT>
	1A865592-2C	NAETC-6792-2C, Surround speaker terminal PC board ass'y <490>
	1A865592-2D	NAETC-6792-2D, Surround speaker terminal PC board ass'y <WT, WR>
U5	1A865594-2A	NAETC-6794-2A, Holder PC board ass'y <DD>
	1A865594-2B	NAETC-6794-2B, Holder PC board ass'y <PP,PA, GT>
	1A865594-2C	NAETC-6794-2C, Holder PC board ass'y <490>
	1A865594-2D	NAETC-6794-2D, Holder PC board ass'y <WT, WR>
U6	1A865595-2A	NAETC-6795-2A, Secondary terminal PC board ass'y <DD>
	1A865595-2B	NAETC-6795-2B, Secondary terminal PC board ass'y <PP,PA, GT>
	1A865595-2C	NAETC-6795-2C, Secondary terminal PC board ass'y <490>
	1A865595-2D	NAETC-6795-2D, Secondary terminal PC board ass'y <WT, WR>
U7	1A899543-1A	NADIS-7043-1A, Display circuit PC board ass'y <DD>
	1A899543-1B	NADIS-7043-1B, Display circuit PC board ass'y <PP>
	1A899543-1C	NADIS-7043-1C, Display circuit PC board ass'y <PA,GT>
	1A899543-1D	NADIS-7043-1D, Display circuit PC board ass'y <WT,WR>
	1A899543-1F	NADIS-7043-1F, Display circuit PC board ass'y <490>
U8	1A899544-1A	NAAR-7044-1A, Main PC board ass'y <DD>
	1A899544-1B	NAAR-7044-1B, Main PC board ass'y <PP>
	1A899544-1C	NAAR-7044-1C, Main PC board ass'y <PA,GT>
	1A899544-1D	NAAR-7044-1D, Main PC board ass'y <WT,WR>
	1A899544-1F	NAAR-7044-1F, Main PC board ass'y <490>
U9	1A899545-1A	NAETC-7045-1A, Head phone jack PC board ass'y <DD>
	1A899545-1B	NAETC-7045-1B, Head phone jack PC board ass'y <PP>
	1A899545-1C	NAETC-7045-1C, Head phone jack PC board ass'y <PA,GT>
	1A899545-1D	NAETC-7045-1D, Head phone jack PC board ass'y <WT,WR>
	1A899545-1F	NAETC-7045-1F, Head phone jack PC board ass'y <490>
U10	1A899546-1A	NAETC-7046-1A, Master volume PC board ass'y <DD>
	1A899546-1B	NAETC-7046-1B, Master volume PC board ass'y <PP>
	1A899546-1C	NAETC-7046-1C, Master volume PC board ass'y <PA,GT>
	1A899546-1D	NAETC-7046-1D, Master volume PC board ass'y <WT,WR>
	1A899546-1F	NAETC-7046-1F, Master volume PC board ass'y <490>

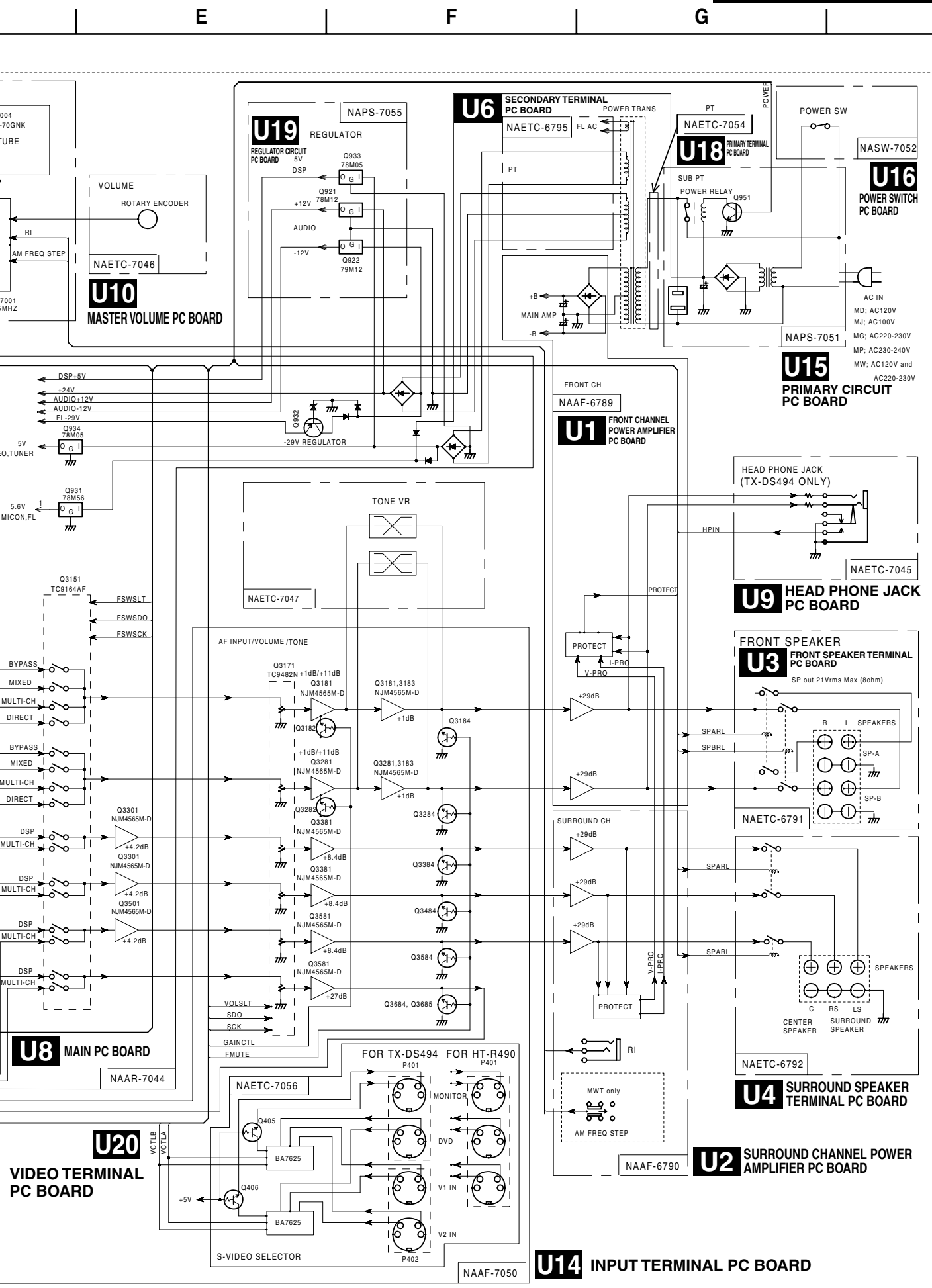
NOTE: THE COMPONENTS IDENTIFIED BY MARK △ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

EXPLODED VIEW PARTS LIST-3

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
U11	1A899547-1A	NAETC-7047-1A, Tone control PC board ass'y <DD>	U20	1A899556-1A	NAETC-7056-1A, Video terminal PC board ass'y <DD>
	1A899547-1B	NAETC-7047-1B, Tone control PC board ass'y <PP>		1A899556-1B	NAETC-7056-1B, Video terminal PC board ass'y <PP>
	1A899547-1C	NAETC-7047-1C, Tone control PC board ass'y <PA,GT>		1A899556-1C	NAETC-7056-1C, Video terminal PC board ass'y <PA>
	1A899547-1D	NAETC-7047-1D, Tone control PC board ass'y <WT,WR>		1A899556-1D	NAETC-7056-1D, Video terminal PC board ass'y <WT>
	1A899547-1F	NAETC-7047-1F, Tone control PC board ass'y <490>		1A899556-1F	NAETC-7056-1F, Video terminal PC board ass'y <490>
U12	1A899548-1A	NAETC-7048-1A, Holder PC board ass'y <DD>	U21	1A899556-1G	NAETC-7056-1G, Video terminal PC board ass'y <GT>
	1A899548-1B	NAETC-7048-1B, Holder PC board ass'y <PP>		1A899556-1H	NAETC-7056-1H, Video terminal PC board ass'y <WR>
	1A899548-1C	NAETC-7048-1C, Holder PC board ass'y <PA,GT>		1A899557-1A	NAAF-7057-1A, Multi channel input terminal PC board ass'y <DD>
	1A899548-1D	NAETC-7048-1D, Holder PC board ass'y <WT,WR>		1A899557-1B	NAAF-7057-1B, Multi channel input terminal PC board ass'y <PP>
	1A899548-1F	NAETC-7048-1F, Holder PC board ass'y <490>		1A899557-1C	NAAF-7057-1C, Multi channel input terminal PC board ass'y <PA>
U13	1A899549-1A	NADG-7049-1A, DSP circuit PC board ass'y <DD>	U23	1A899557-1D	NAAF-7057-1D, Multi channel input terminal PC board ass'y <WT>
	1A899549-1B	NADG-7049-1B, DSP circuit PC board ass'y <PP, WR,WT, PA, GT>		1A899557-1F	NAAF-7057-1F, Multi channel input terminal PC board ass'y <490>
	1A899549-1C	NADG-7049-1C, DSP circuit PC board ass'y <490>		1A899557-1G	NAAF-7057-1G, Multi channel input terminal PC board ass'y <GT>
U14	1A899550-1A	NAAF-7050-1A, Input terminal PC board ass'y <DD>		1A899557-1H	NAAF-7057-1H, Multi channel input terminal PC board ass'y <WR>
	1A899550-1B	NAAF-7050-1B, Input terminal PC board ass'y <PP>		240134 or	TFCE1U114A or
	1A899550-1C	NAAF-7050-1C, Input terminal PC board ass'y <PA>		240138A	ENG06501QR <DD, 490>
	1A899550-1D	NAAF-7050-1D, Input terminal PC board ass'y <WT>		240135 or	TFCE1E512A or
	1A899550-1F	NAAF-7050-1F, Input terminal PC board ass'y <490>		240139A	ENG07501Q <PP, WT, WR, PA, GT>
U15	1A899550-1G	NAAF-7050-1G, Input terminal PC board ass'y <GT>	[NOTE] <DD> : 120V model only <DT> : Asian model only for 120V <GT> : Asian model only for 230V <PP> : European model only <WT> : World wide model only <WR> : Chinese model only <494> : TX-DS494 only <490> : HT-R490 only : Black model only <S> : Silver model only <G> : Golden model only		
	1A899550-1H	NAAF-7050-1H, Input terminal PC board ass'y <WR>			
	1A899551-1A	NAPS-7051-1A, Primary circuit PC board ass'y <DD>			
	1A899551-1B	NAPS-7051-1B, Primary circuit PC board ass'y <PP>			
	1A899551-1C	NAPS-7051-1C, Primary circuit PC board ass'y <PA>			
U16	1A899551-1D	NAPS-7051-1D, Primary circuit PC board ass'y <WT>			
	1A899551-1F	NAPS-7051-1F, Primary circuit PC board ass'y <490>			
	1A899551-1G	NAPS-7051-1G, Primary circuit PC board ass'y <GT>			
	1A899551-1H	NAPS-7051-1H, Primary circuit PC board ass'y <WR>			
	1A899552-1A	NASW-7052-1A, Power switch PC board ass'y <DD>			
U17	1A899552-1B	NASW-7052-1B, Power switch PC board ass'y <PP>			
	1A899552-1C	NASW-7052-1C, Power switch PC board ass'y <PA>			
	1A899552-1D	NASW-7052-1D, Power switch PC board ass'y <WT>			
	1A899552-1F	NASW-7052-1F, Power switch PC board ass'y <490>			
	1A899552-1G	NASW-7052-1G, Power switch PC board ass'y <GT>			
U18	1A899552-1H	NASW-7052-1H, Power switch PC board ass'y <WR>			
	25137053	NCETC-7053 PC board for Holder			
U19	1A899554-1A	NAETC-7054-1A, Primary terminal PC board ass'y <DD>			
	1A899554-1B	NAETC-7054-1B, Primary terminal PC board ass'y <PP>			
	1A899554-1C	NAETC-7054-1C, Primary terminal PC board ass'y <PA>			
	1A899554-1D	NAETC-7054-1D, Primary terminal PC board ass'y <WT>			
	1A899554-1F	NAETC-7054-1F, Primary terminal PC board ass'y <490>			
U19	1A899554-1G	NAETC-7054-1G, Primary terminal PC board ass'y <GT>			
	1A899554-1H	NAETC-7054-1H, Primary terminal PC board ass'y <WR>			
	1A899555-1A	NAPS-7055-1A, Regulator circuit PC board ass'y <DD>			
	1A899555-1B	NAPS-7055-1B, Regulator circuit PC board ass'y <PP>			
	1A899555-1C	NAPS-7055-1C, Regulator circuit PC board ass'y <PA>			
	1A899555-1D	NAPS-7055-1D, Regulator circuit PC board ass'y <WT>			
	1A899555-1F	NAPS-7055-1F, Regulator circuit PC board ass'y <490>			
U19	1A899555-1G	NAPS-7055-1G, Regulator circuit PC board ass'y <GT>			
	1A899555-1H	NAPS-7055-1H, Regulator circuit PC board ass'y <WR>			

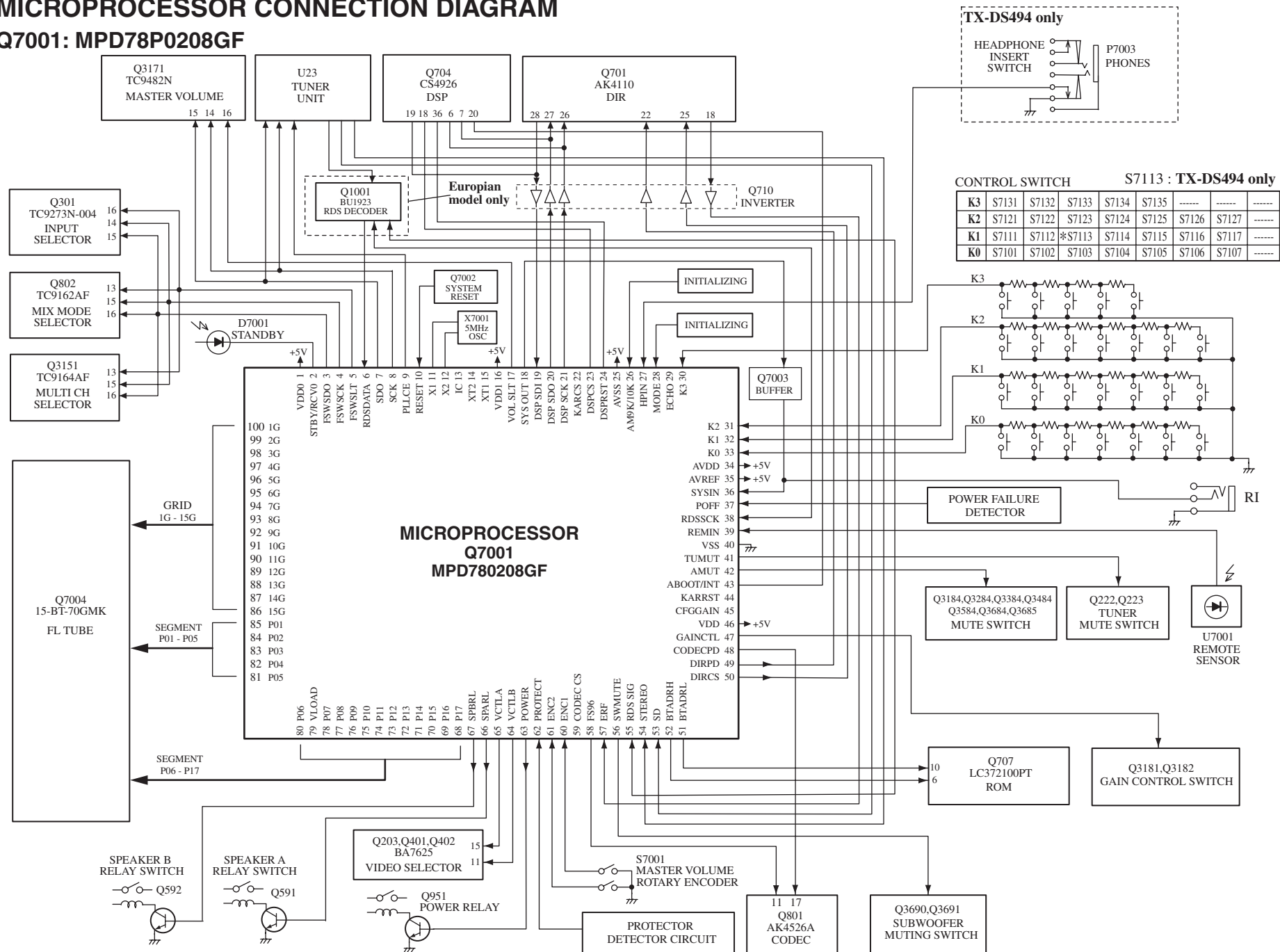
BLOCK DIAGRAM





MICROPROCESSOR CONNECTION DIAGRAM

Q7001: MPD78P0208GF



MICROPROCESSOR TERMINAL DESCRIPTION

Q7001: MPD78P0208GF

No.	Function	I/O	Description	No.	Function	I/O	Description
1	VDD	I	Power supply terminal. (+5V)	38	RDSSCK	I	Clock input terminal from RDS decoder.
2	STBY/RECV	O	STANDBY/RECEIVED inductor control output terminal.	39	REMIN	I	Signal input terminal from remote sensor.
3	FSWSDO	O	Data output terminal to function switch ICs.	40	VSS	I	Power supply terminal (GND).
4	FSWSCK	O	Clock output terminal to function switch ICs.	41	TUMUT	O	Muting control output terminal for tuner section.
5	FSWSLT	O	Latch output terminal to function switch ICs.	42	AMUT	O	Muting control output terminal for amplifier section.
6	RDSDATA	I	Data input terminal from RDS decoder.	43	ABOOT/INT	I/O	AUTOBOOT and INTREQ I/O terminal for DSP(CS4296).
7	SDO	O	Data output terminal to PLL IC and Master volume IC (TC9482N).	44	KARRST	O	Not used.
8	SCK	O	Clock output terminal to PLL IC and Master volume IC (TC9482N).	45	CFGGAIn	O	Not used.
9	PLLCE	O	Chip enable output terminal to PLL IC.	46	VDD	I	Power supply terminal (+5V).
10	RESET	I	System reset input terminal.	47	GAINCTL	O	Gain control output terminal.
11	X1	O	Ceramic oscillator connection terminals.	48	CODECPD	O	Power down signal output terminal to CODEC(AK4526).
12	X2	I	Connect 5.0MHz ceramic oscillator between the both terminals.	49	DIRPD	O	Power down signal output terminal to DIR (AK4110).
13	GND	I	Internal connection terminal.(to GND)	50	DIRCS	O	Chip enable output terminal to DIR (AK4110).
14	XT2	O	Sub system clock output terminal. Not used.	51	BTADRL	O	Output terminal to set LSB position of address to boot ROM (MX29F002T).
15	XT1	I	Sub system clock input terminal. Not used.(to GND)	52	BTADRH	O	Output terminal to set MSB position of address to boot ROM (MX29F002T).
16	Vdd	I	Power supply terminal. (+5V)	53	SD	I	Broadcast detection input terminal.
17	VOL SLT	O	Latch output terminal to Master volume IC(TC9482N).	54	STEREO	I	Stereo broadcast detection input terminal.
18	SYSOUT	O	System code output terminal.	55	RDSSIG	I	Signal input terminal from RDS decoder.
19	DSPSDI	I	Data input terminal from DIR(AK4110).	56	SWMUTE	O	SW Preout muting control output terminal for amplifier section.
20	DSPSDO	O	Data output terminal to DIR (AK4110),DSP(CS4926).	57	ERF	I	ERF Signal input terminal from DIR(AK4110).
21	DSPSCK	O	Clock output terminal to DIR (AK4110),DSP(CS4926)	58	FS96	O	FS96 Signal output terminal to CODEC(AK4526)
22	KARCS	O	Not used.	59	CODECCS	O	Not used.
23	DSPCS	O	Chip enable output terminal to DSP(CS4926).	60	ENC1	I	Volume control input terminal.
24	DSPRST	O	Reset output terminal to DSP(CS4926).	61	ENC2	I	Volume control input terminal.
25	AVSS	I	Power supply terminal.(GND)	62	PROTECT	I	Detection input terminal for protection circuit.
26	AM9K/10K	I	Initializing input terminal for AM band step.	63	POWER	O	Relay control output terminal for power.
27	HPIN	I	Detection input terminal from headphone..	64	VCTLB	O	Video selector control output terminal.
28	MODE	I	Initializing input terminal of operation mode..	65	VCTLA	O	Video selector control output terminal.
29	ECHO	I	Not used.	66	SPARL	O	Control output terminal for SPEAKER A relay.
30-33	K3-K0	I	Operation key connection terminals.	67	SPBRL	O	Control output terminal for SPEAKER B relay.
34	AVDD	I	Power supply terminal.(+5V)	68-78	P17-P7	O	Segment output terminals for FL tube.
35	AVREF	I	Reference voltage terminal.	79	VLOAD		Power supply terminal for FL tube.
36	SYSIN	I	System code input terminal.	80-85	P6-P1	O	Segment output terminals for FL tube.
37	POFF	I	Power failure detection terminal.	86-100	15G-1G	O	Grid output terminals for FL tube.

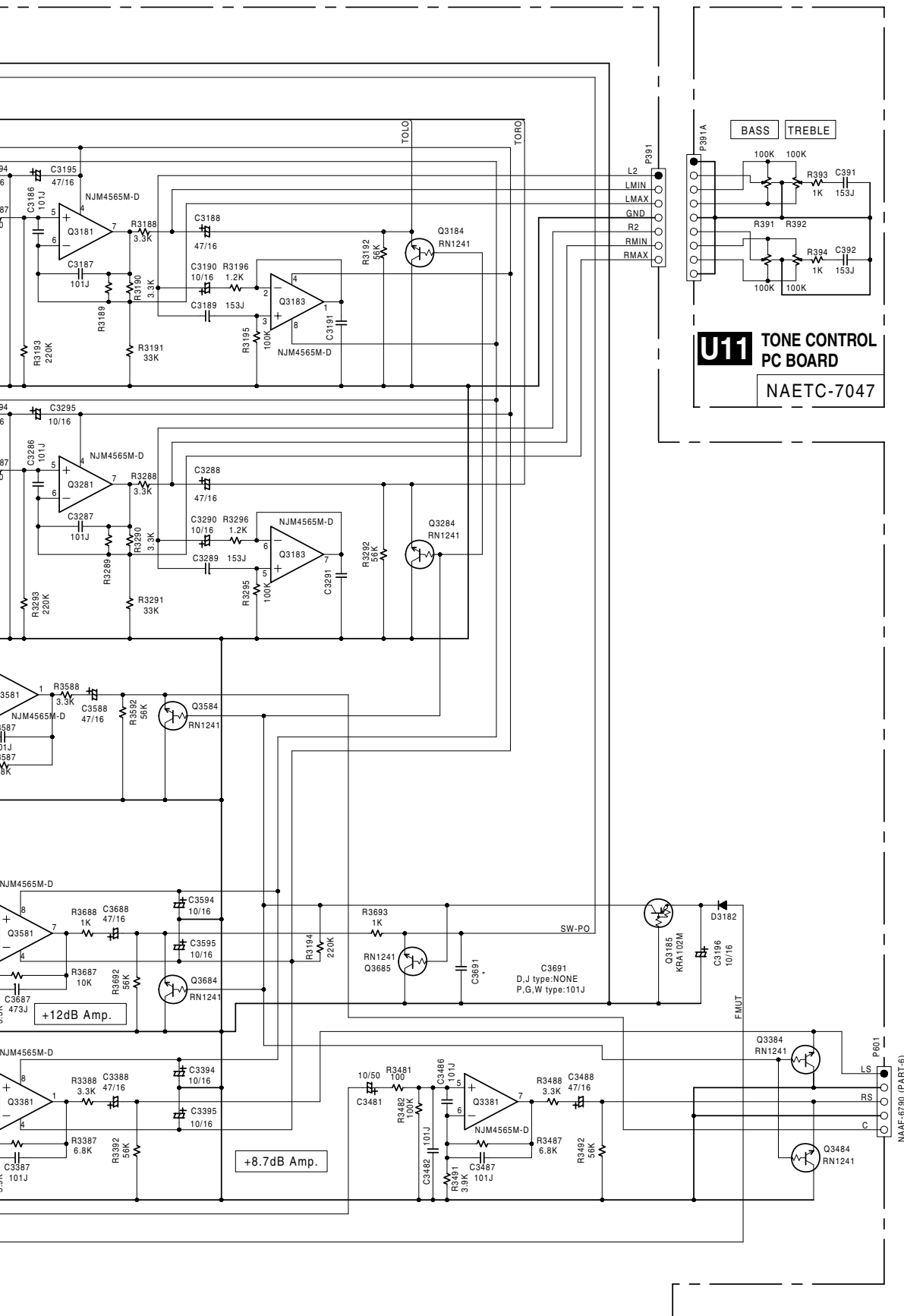
D



E

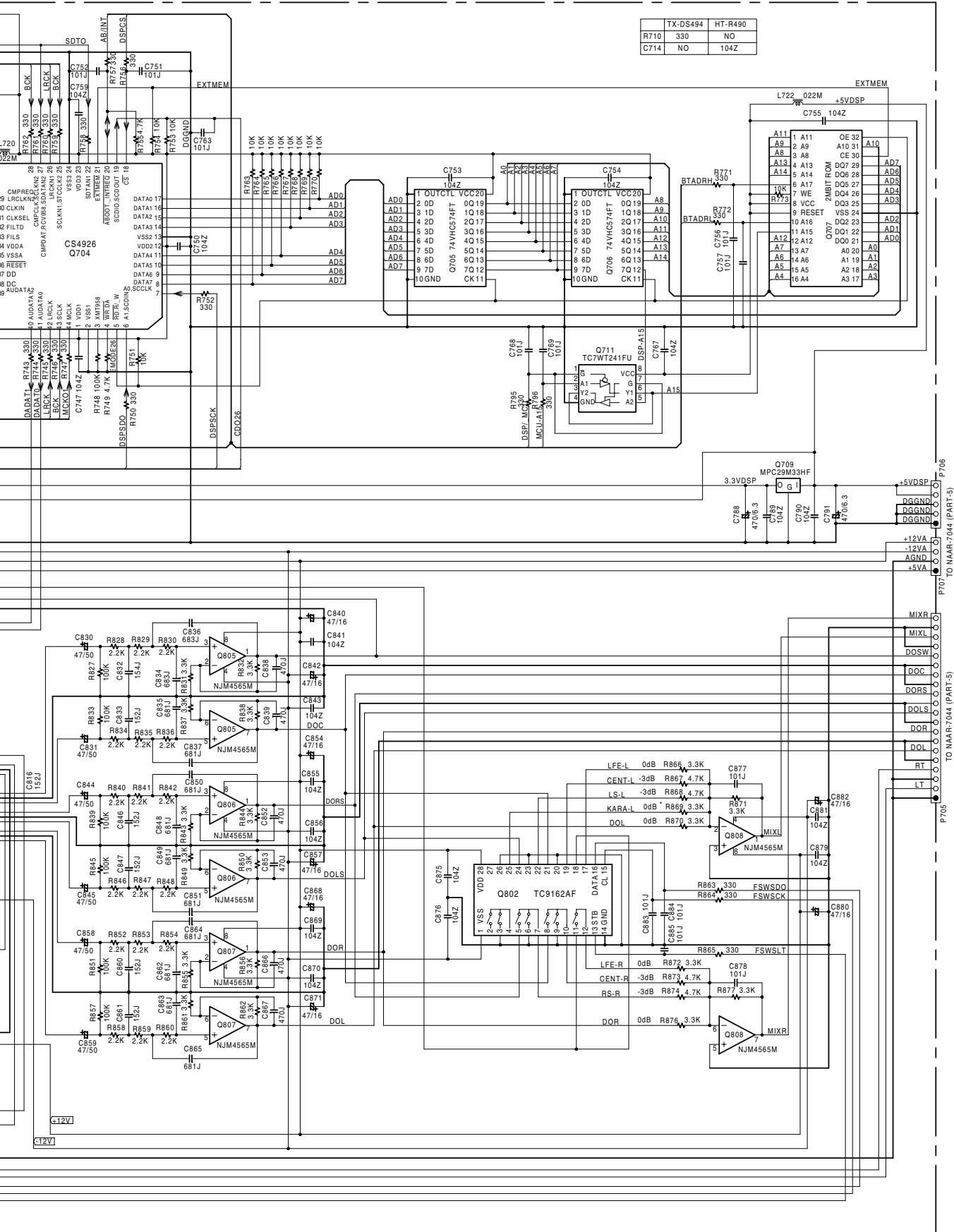
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G

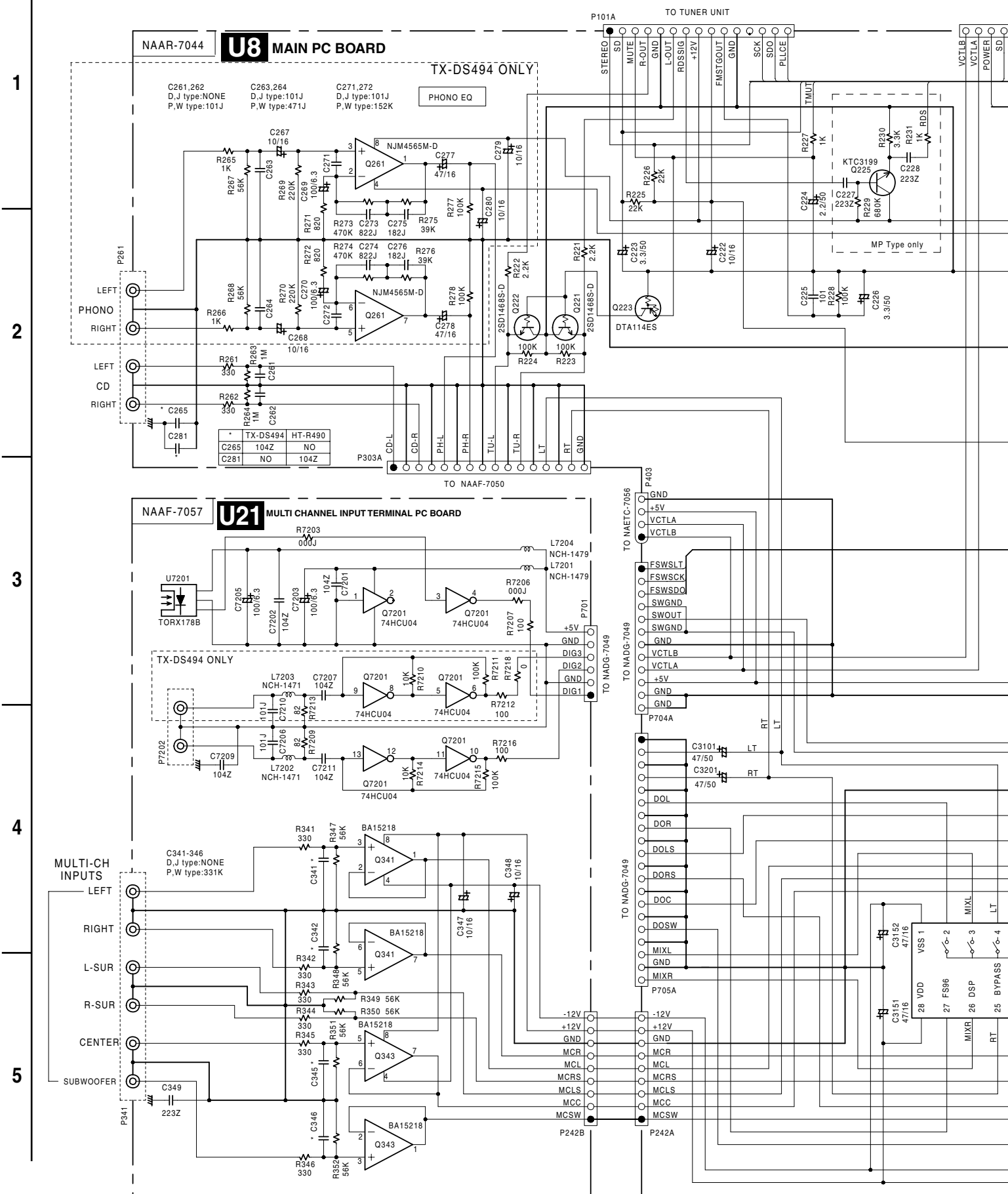


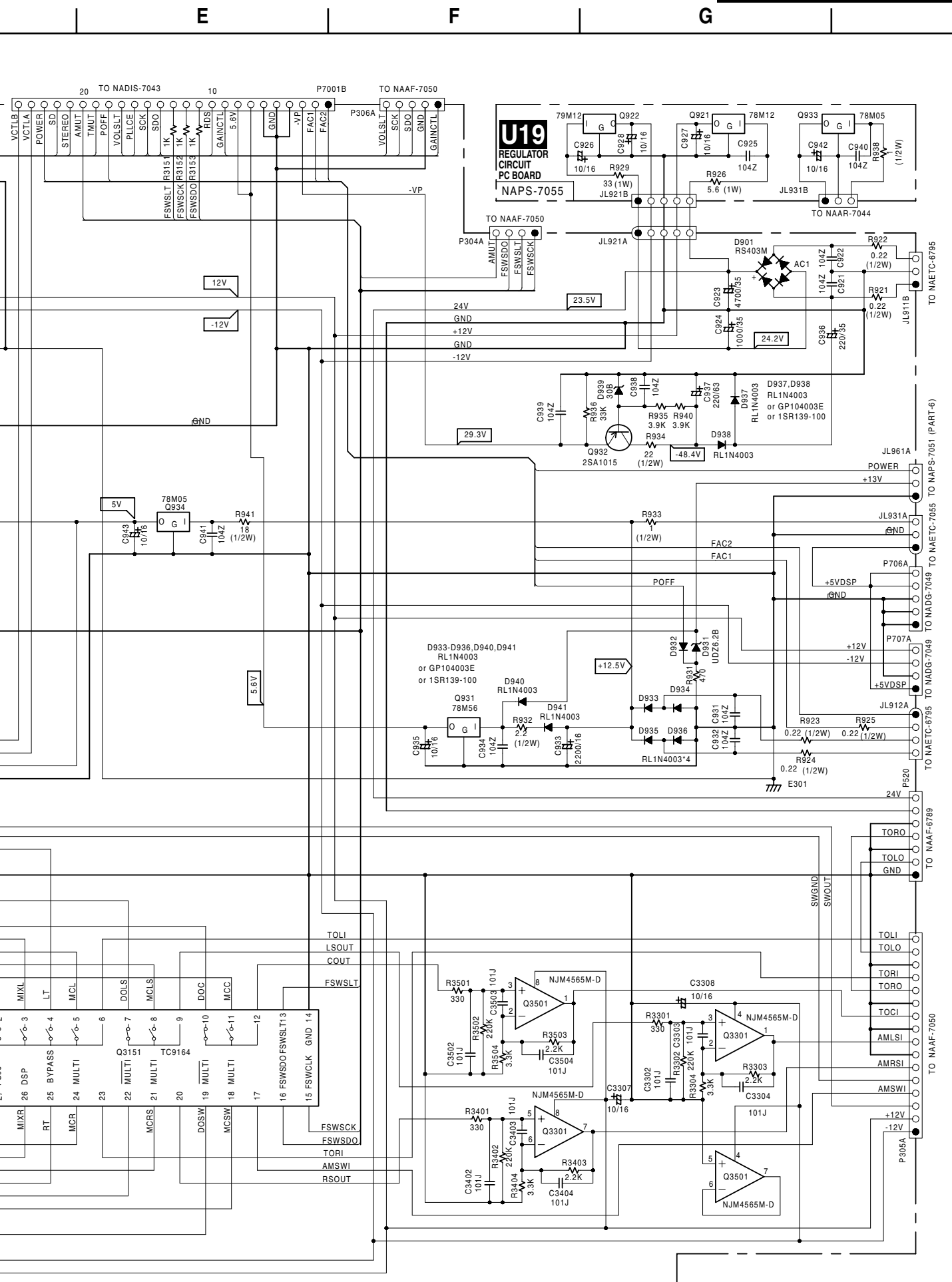
D





SCHEMATIC DIAGRAM-3





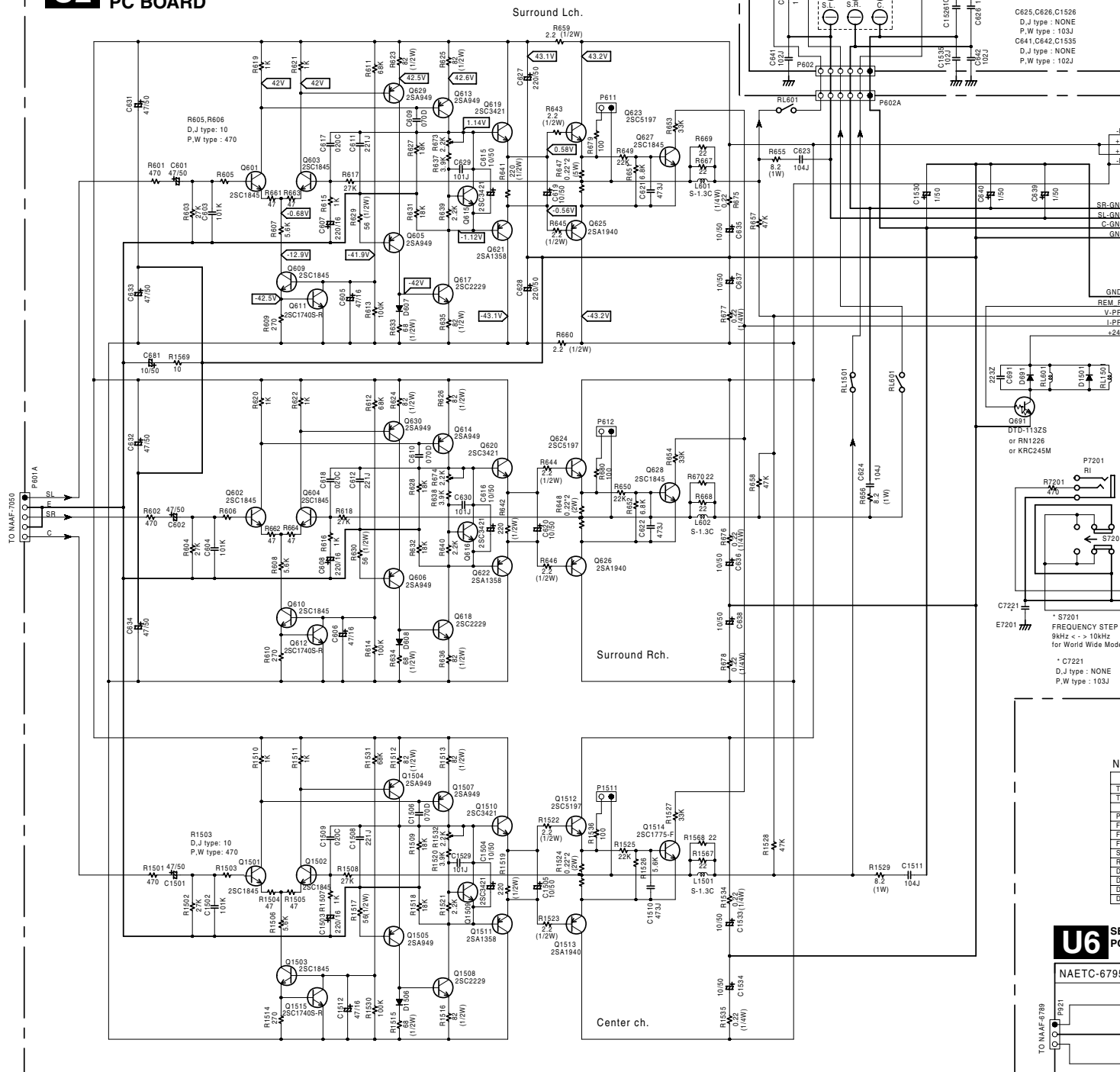
SCHEMATIC DIAGRAM-4

NAAF-6790

U2 SURROUND CHANNEL POWER AMPLIFIER PC BOARD

SURROUND SPEAKER TERMINAL PC BOARD U4

NAETC-6790



Q507, Q508, Q509, Q510, Q513, Q514,
Q605, Q606, Q613, Q614, Q629, Q630,
Q1504, Q1505, Q1507, KTA1024 or 2SA949
Q515, Q516, Q617, Q618, Q1508, KTC3206 or 2SC2229
Q523, Q524, Q623, Q624, Q1512, KTD718 or 2SC5197 or 2SC4467
Q525, Q526, Q625, Q626, Q1513, KTB888 or 2SA1940 or 2SA1694
Q519, Q520, Q619, Q620, Q1510, 2SC3421 or KTD600K
Q521, Q522, Q621, Q622, Q1511, 2SA1358 or KTB831K

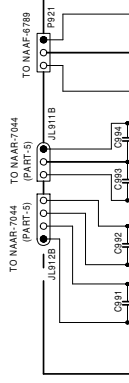
Q591, Q592, Q951 KRC105M or DTC123JS or RN1205
Q691 DTD1132S or RN1226 or KRC245M
Q529, Q530, Q611, Q612, Q1515 KTC3199 or 2SC1740 or 2SC2458
Q501, Q502, Q503, Q504, Q505, Q506, Q527, Q528, Q581, Q582, Q601, Q602, Q603, Q604, Q605, Q610, Q627, Q628, Q1501, Q1502, Q1503, Q1514, 2SC1845 or 2SC1775A

THIS SYMBOL LOCATED NEAR THE FUSE INDICATES THAT THE FUSE USED IS SLOW OPERATING TYPE FOR CONTINUED PROTECTION AGAINST FIRE HAZARD. HAZARD REPLACE WITH SAME TYPE FUSE. FOR FUSE RATING REFER TO THE MAKING ADJACENT TO THE SYMBOL.

CE SYMBOLE INDIQUE QUE LE FUSIBLE UTILISE EST A LENT, ET POUR UNE PROTECTION PERMANENTE, N'UTILISER QUE DES FUSIBLES DE MEME TYPE. CE DERNIER EST INDIQUE LA QU LE PRESENT SYMBOLE EST APOSE.

CAUTION
FOR CONTINUED PROTECTION
AGAINST FIRE HAZARD, REPLACE
ONLY WITH FUSE OF SAME TYPE
AND RATING INDICATED.

ATTENTION
AFIN D'ASSURER UNE PROTECTION
PERMANENTE CONTRE LES RISQUES
D'INCENDIE, REMPLACER UNIQUEMENT
PAR UN FUSIBLE DE MEME TYPE
ET CALIBRATION COMME INDIQUE.



E

F

G

U4
NAETC-6792

U1 FRONT CHANNEL POWER AMPLIFIER PC BOARD

C1526
NONE
103J
C1535
NONE
102J

C1530
NONE
103J
C1535
NONE
102J

P7201
RI
S7201

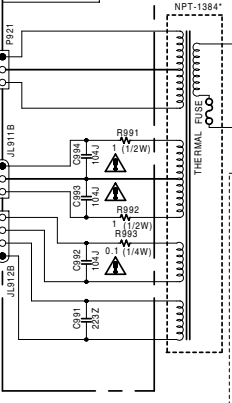
* S7201
FREQUENCY STEP
60Hz < - > 10kHz
for World Wide Model
* C7221
D.J type : NONE
P.W type : 103J

NAPS-7051

	MDD TYPE	MPP TYPE	MW/MG TYPE	MJJ TYPE
T901	NPT-1384D	NPT-1384P	NPT-1384DG	NPT-1384J
T902	NPT-1358D	NPT-1358P	NPT-1358DG	NPT-1358J
F901	AS-UC	AS-CEE	AS-CEE2	AS-W
F911	YES	NO	YES	YES
F922	NO	YES	YES	NO
F933	NO	YES	NO	NO
S902	NO	NO	YES	NO
R901	YES	NO	NO	NO
D951	NO	YES	YES	NO
D952	YES	YES	YES	YES
D953	NO	YES	YES	NO
D954	NO	YES	YES	NO

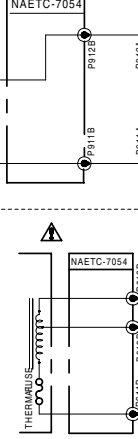
U6 SECONDARY TERMINAL PC BOARD

NAETC-6795



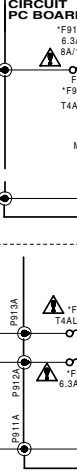
U18 PRIMARY CIRCUIT PC BOARD

NAETC-7054



U15 PRIMARY CIRCUIT PC BOARD

NAETC-7051



U16 POWER SWITCH PC BOARD

NASW-7052

MD TYPE
(120V/ 60Hz)

MJ TYPE
(100V/ 50/60Hz)

MP TYPE
(230V-240V/ 50Hz)

MG TYPE
(220V-230V/ 50/60Hz)

MW TYPE
(220V-230V/ 50Hz, 120V/ 60Hz SWITCHABLE)

U3 FRONT SPEAKER TERMINAL PC BOARD

NAETC-6791

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

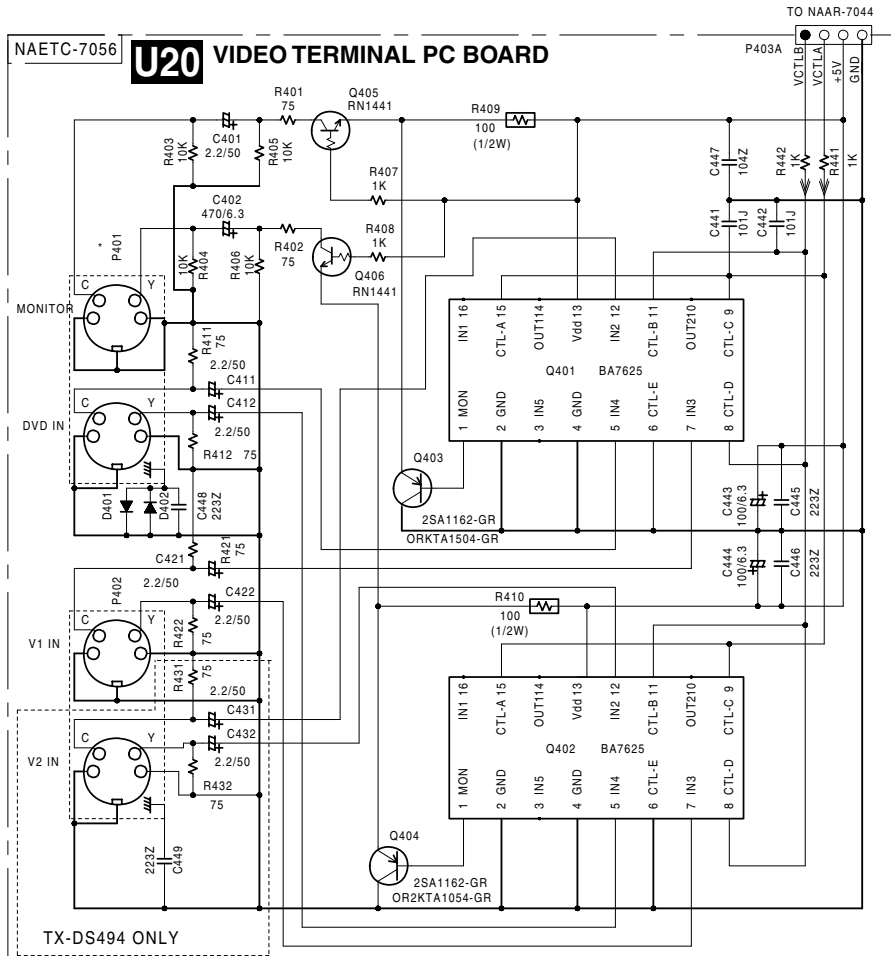
C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

C533, C534, D.J type : NONE
C535, C536 P.W type : 103J
C565, C566 D.J type : NONE
P.W type : 102J

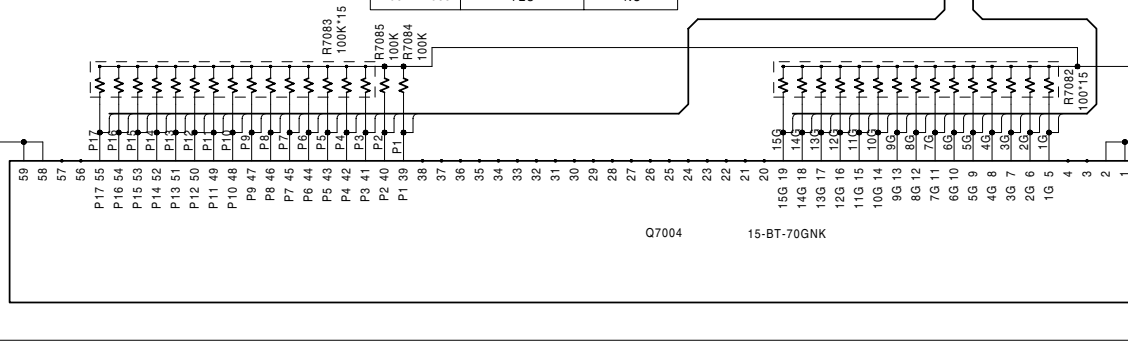
SCHEMATIC DIAGRAM-5



* TX-DS494 P401 2P
* HT-R490 P401 3P

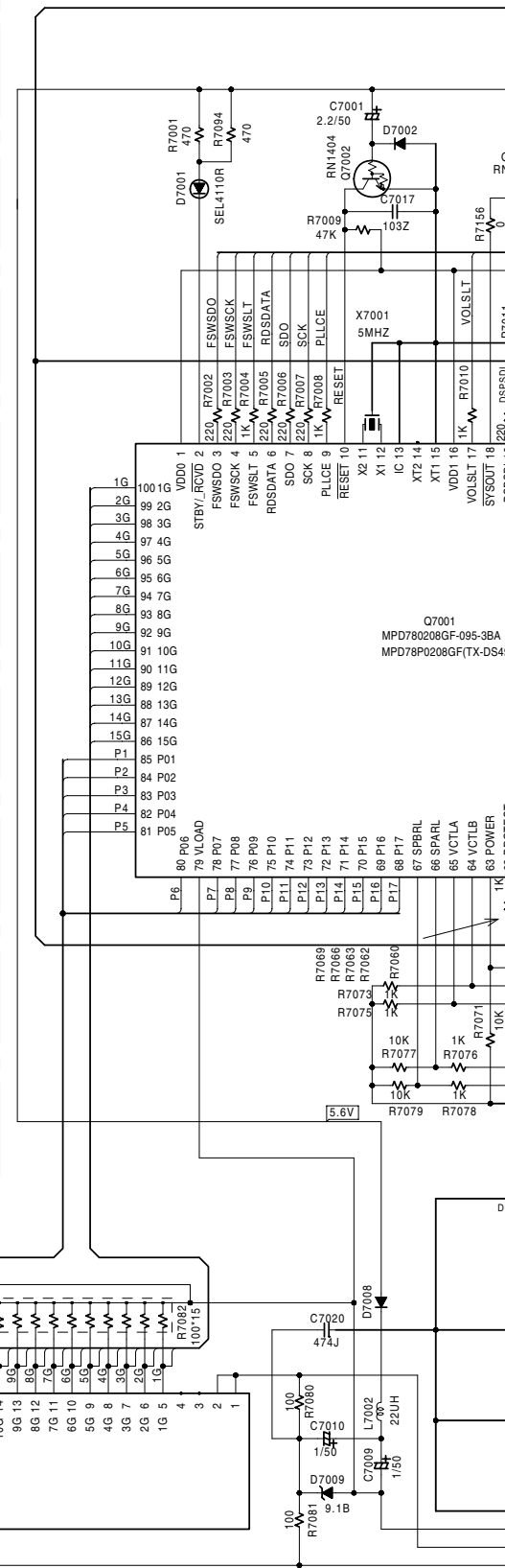
	MDD	MPP	MWT/MWR	MGT/MPA	MJ	HT-R490
R7018	47K	47K	47K	47K	47K	NO
R7019	1K	1K	1K	1K	1K	NO
R7020	NO	18K	12K	10K	3.3K	10K
R7021	10K	2.2K	3.3K	8.2K	12K	NO
R7158	NO	NO	NO	NO	NO	000J
R7159	000J	000J	000J	000J	000J	NO
S7113	YES	YES	YES	YES	YES	NO
P7026	2P	2P	3P	2P	2P	2P
P504	6P	6P	6P	6P	6P	3P
C7014	NO	104Z	104Z	104Z	NO	NO

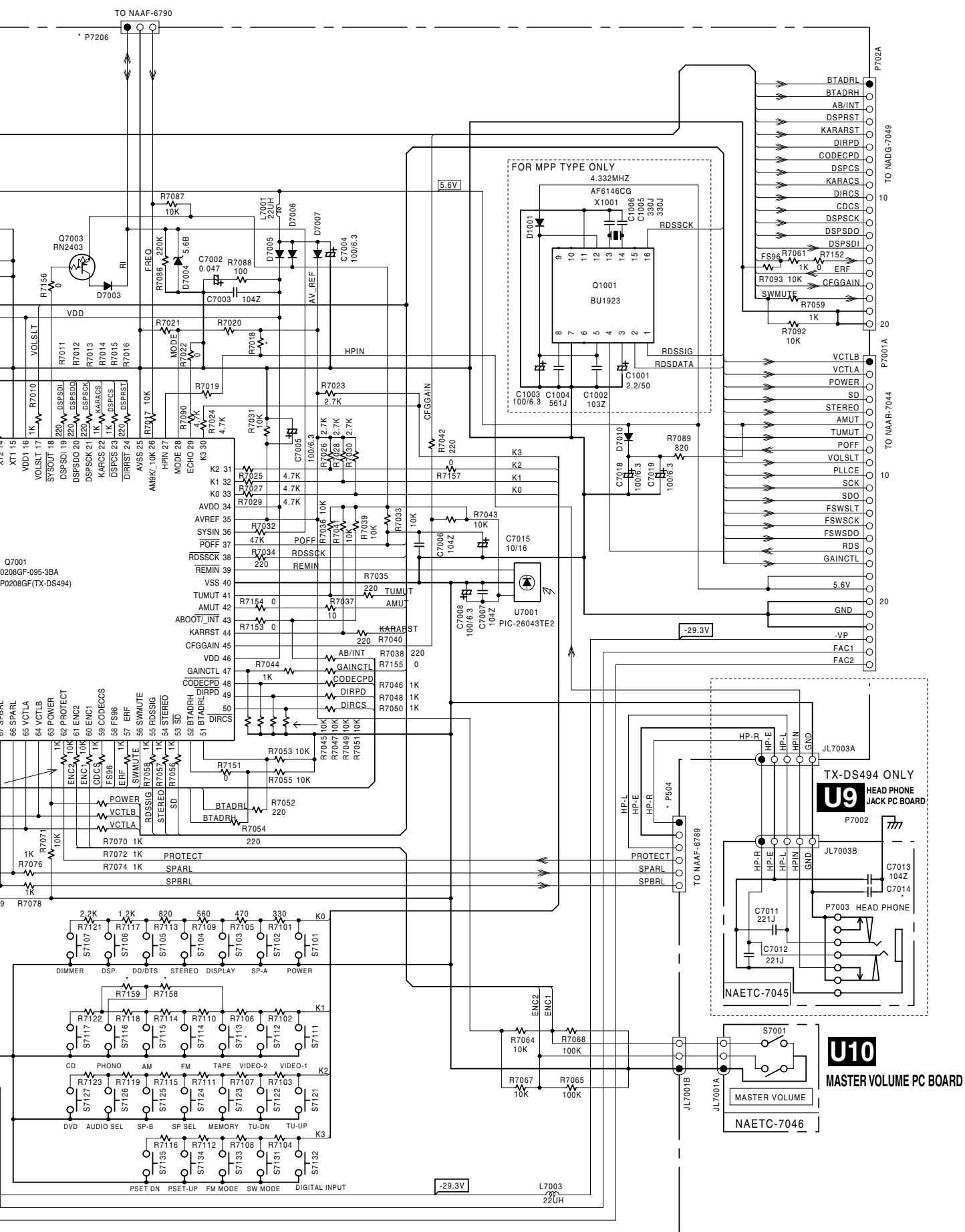
	ONE TIME MICON	MASK MICON
R7082-R7085	YES	NO



NAAR-7044


U7 DISPLAY CIRCUIT PC BOARD





PRINTED CIRCUIT BOARD PARTS LIST-1

NOTE: <DD> : 120V model only <494>: TX-DS494 only
 <DT> : Asian model only for 120V <490>: HT-R490 only
 <GT> : Asian model only for 230V
 <PP> : European model only
 <PA> : Australian model only
 <WT> : World wide model only
 <WR> : Chinese model only

NOTE: THE COMPONENTS IDENTIFIED BY MARK  ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

U1
**FRONT CHANNEL POWER AMPLIFIER PC BOARD
 (NAAF-6789-2A/2B/2C/2D)**


CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
Transistors			Resistors		
Q501-Q506	2210755 or	2SC1775A-E or	C525,C526	354781019	100uF,50V, Elect.
	2210756 or	2SC1775A-F or	C581	354721019	100uF,6.3V, Elect.
	2211732 or	2SC1845-F or	C583	354780109	1uF,50V, Elect.
	2211733 or	2SC1845-E or	C905,C906	374721044	0.1uF+/-5%,50V, Plastic
	2215895 or	KTC3200-GR or	C915,C916	3504344	10000uF,50V, Elect.
Q507-Q510	2215896	KTC3200-BL			
	2211353 or	2SA949-O or	R521-R524	443528204	82ohm+/-5%,1/2W, Metal oxide
	2215844 or	KTA1024-Y or	R525,R526	443526804	68ohm+/-5%,1/2W, Metal oxide
Q513,Q514	2215843	KTA1024-O	R527,R528	443528204	82ohm+/-5%,1/2W, Metal oxide
	2211353 or	2SA949-O or	R529,R530	443525604	56ohm+/-5%,1/2W, Metal oxide
	2215844 or	KTA1024-Y or	R543,R544	443522214	220ohm+/-5%,1/2W, Metal oxide
Q515,Q516	2215843	KTA1024-O	R547,R548	4000132 or	0.22ohm+/-5%,5W, Metal plate or
	2215854 or	KTC3206-Y or		4000201 or	0.22ohm+/-5%,5W, Metal plate or
Q519,Q520	2215853	KTC3206-O		4500245	0.22ohm+/-5%,5W, Metal plate
	2203523 or	KTD600K-Y or	R555,R556	453630824	8.2ohm+/-5%,1W, Metal oxide
Q521,Q522	2203524	KTD600K-GR	R557,R558	443623914	390ohm+/-5%,1W, Metal oxide <494>
	2203513 or	KT631K-Y or	R573,R574	5210260	N06HR3KTBC, Trimming resistor
Q527,Q528	2203514	KT631K-GR	R591,R592	4500171F	2.2ohm+/-5%,1/4W, Metal oxide
	2210755 or	2SC1775A-E or	Sockets		
Q529,Q530	2210756 or	2SC1775A-F or	JL501A	25051109	NSCT-5P896
	2211732 or	2SC1845-F or	JL902B	25050268	NSCT-4P96
	2211733 or	2SC1845-E or	JL903A	25051108	NSCT-4P895
	2215895 or	KTC3200-GR or	Plugs		
	2215896	KTC3200-BL	P504A	25055441	NPLG-3P423
Q581,Q582	2213284 or	2SC1740S-R or	P511,P512	25055038	NPLG-2P29
	2212115 or	2SC2458-GR or	P921A	25055175	NPLG-3P159
	2215864	KTC3199-GR			
	2210755 or	2SC1775A-E or			
Q583	2210756 or	2SC1775A-F or			
	2211732 or	2SC1845-F or			
	2211733 or	2SC1845-E or			
	2215895 or	KTC3200-GR or			
	2215896	KTC3200-BL			
Q591,Q592	2211792 or	2SA992-F or			
	2211793 or	2SA992-E or			
	2215885 or	KTA1268-GR or			
	2215886	KTA1268-BL			
	2214660 or	RN1205 or			
D511,D512	2213640 or	DC123JS or			
	2215830	KRC105M			
	Diodes				
D571	223163 or	1SS133 or			
	223205	1SS270A			
L501,L502	224470512	MTZJ5.1B			
	Coils				
C501,C502	231176S	S-1.3C			
	Capacitors				
C503,C504	354784709	47uF,50V, Elect.			
C505,C506	374721015	100pF+/-10%,50V, Plastic			
C507-C510	354742219	220uF,16V, Elect.			
C517,C518	354781009	10uF,50V, Elect.			
C519,C520	374724734	0.047uF+/-5%,50V, Plastic			
C521,C522	374721044	0.1uF+/-5%,50V, Plastic			
	354744709	47uF,16V, Elect.			

U2
**SURROUND CHANNEL POWER AMPLIFIER PC BOARD
 (NAAF-6790-2A/2B/2C/2D)**

CIRCUIT NO.	PART NO.	DESCRIPTION
Transistors		
Q1501-Q1503,Q1514	2210755 or	2SC1775A-E or
	2210756 or	2SC1775A-F or
	2211732 or	2SC1845-F or
	2211733 or	2SC1845-E or
	2215895 or	KTC3200-GR or
Q1504,Q1505,Q1507	2215896	KTC3200-BL
	2211353 or	2SA949-O or
	2215843 or	KTA1024-O or
	2215844	KTA1024-Y
	2210755 or	2SC1775A-E or
Q601-Q604	2210756 or	2SC1775A-F or
	2211732 or	2SC1845-F or
	2211733 or	2SC1845-E or
	2215895 or	KTC3200-GR or
	2215896	KTC3200-BL
Q605,Q606	2211353 or	2SA949-O or
	2215843 or	KTA1024-O or
	2215844	KTA1024-Y
Q609,Q610	2210755 or	2SC1775A-E or
	2210756 or	2SC1775A-F or
	2211732 or	2SC1845-F or
	2211733 or	2SC1845-E or
	2215895 or	KTC3200-GR or
	2215896	KTC3200-BL

PRINTED CIRCUIT BOARD PARTS LIST-2

NOTE: <DD> : 120V model only <494>: TX-DS494 only
 <DT> : Asian model only for 120V <490>: HT-R490 only
 <GT> : Asian model only for 230V
 <PA> : Australian model only
 <PP> : European model only
 <WT> : World wide model only
 <WR> : Chinese model only

NOTE: THE COMPONENTS IDENTIFIED BY MARK  ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

CIRCUIT NO.	PART NO.	DESCRIPTION
Q611,Q612,Q1515	2212115 or 2213284 or 2215864	2SC2458-GR or 2SC1740S-R or KTC3199-GR
Q613,Q614	2211353 or 2215843 or 2215844	2SA949-O or KTA1024-O or KTA1024-Y
Q615,Q616,Q1509	2212653 or 2212654	2SC3421-O or 2SC3421-Y
Q617,Q618,Q1508	2211633 or 2215853 or 2215854	2SC2229-O or KTC3206-O or KTC3206-Y
Q619,Q620,Q1510	2203523 or 2203524	KTD600K-Y or KTD600K-GR
Q621,Q622,Q1511	2203513 or 2203514	KT631K-Y or KT631K-GR
Q627,Q628	2210755 or 2210756 or 2211732 or 2211733 or 2215895 or 2215896	2SC1775A-E or 2SC1775A-F or 2SC1845-F or 2SC1845-E or KTC3200-GR or KTC3200-BL
Q629,Q630	2211353 or 2215843 or 2215844	2SA949-O or KTA1024-O or KTA1024-Y
Q691	2213650 or 2214680 or 2216060	DTD113ZS or RN1226 or KRC245M
Diodes		
D1501,D1506	223163 or 223205	1SS133 or 1SS270A
D607,D608,D691	223163 or 223205	1SS133 or 1SS270A
Coils		
L601,L602,L1501	231176S	S-1.3C
Capacitors		
C1504,C1505	354781009	10uF,50V, Elect.
C1533,C1534	354781009	10uF,50V, Elect.
C601,C602,C1501	354784709	47uF,50V, Elect.
C603,C604,C1502	374721015	100pF+/-10%,50V, Plastic
C605,C606,C1512	354744709	47uF,16V, Elect.
C607,C608,C1503	354742219	220uF,16V, Elect.
C615,C616	354781009	10uF,50V, Elect.
C619,C620	354781009	10uF,50V, Elect.
C621,C622,C1510	374724734	0.047uF+/-5%,50V, Plastic
C623,C624,C1511	374721044	0.1uF+/-5%,50V, Plastic
C627,C628	354782219	220uF,50V, Elect.
C631-C634	354784709	47uF,50V, Elect.
C635-C638,C681	354781009	10uF,50V, Elect.
C639,C640,C1530	354780109	1uF,50V, Elect.
Resistors		
R1512,R1513,R151	443528204	82ohm+/-5%,1/2W, Metal oxide
R1522,R1523	453530224	2.2ohm+/-5%,1/2W, Metal oxide
R1529	453630824	8.2ohm+/-5%,1W, Metal oxide
R1534,R1535	4500159F	0.22ohm+/-5%,1/4W, Metal oxide
R539-R542	453530224	2.2ohm+/-5%,1/2W, Metal oxide
R623-R626	443528204	82ohm+/-5%,1/2W, Metal oxide
R629,R630,R1517	443525604	56ohm+/-5%,1/2W, Metal oxide
R633,R634,R1515	443526804	68ohm+/-5%,1/2W, Metal oxide
R635,R636	443528204	82ohm+/-5%,1/2W, Metal oxide

CIRCUIT NO.	PART NO.	DESCRIPTION
R641,R642,R1519	443522214	220ohm+/-5%,1/2W, Metal oxide
R643-R646	453530224	2.2ohm+/-5%,1/2W, Metal oxide
R647,R648,R1524	4000132 or 4000201 or 4500245	0.22ohm+/-5%,5W or 0.22ohm+/-5%,5W or 0.22ohm+/-5%,5W, Metal plate
R655,R656	453630824	8.2ohm+/-5%,1W, Metal oxide
R659,R660	4500268F	2.2ohm+/-5%,1/2W, Metal oxide
R673,R674,R1532	5210288	N06HR2.2KTBE, Trimming resistor
R675-R678	4500159F	0.22ohm+/-5%,1/4W, Metal oxide
Relays		
RL601	25065563 or 25065590 or 25065618	NRL-2P5A-DC24-129 or NRL-2P8A-DC24-144 or NRL-2P5A-DC24-158
RL1501	25065574	NRL-1P5A-DC24-134
Switch		
S7201	25065286	NSS-22112 <WR,WT>
Jack		
P7201	25045504	NPJ-1PDBL319
Sockets		
JL501B	25050282	NSCT-5P110
JL902A	25051108	NSCT-4P895
JL903B	25050268	NSCT-4P96
Plugs		
P601A	25055236	NPLG-5P220
P611,P612,P1511	25055038	NPLG-2P29
P7206A	25055132	NPLG-2P116 <DD,PP,PA,GT,490>
	25055133	NPLG-3P117 <WR,WT>
Clamp		
P589	260224	CP-1S

U3

FRONT SPEAKER TERMINAL PC BOARD
(NAETC-6791-2A/2B/2C/2D)

CIRCUIT NO.	PART NO.	DESCRIPTION
Diodes		
D591,D592	223163 or 223205	1SS133 or 1SS270A
Capacitors		
C533-C536	374721034	0.01uF+/-5%,50V, Plastic <PP,PA,GT,WR,WT>
Relays		
RL501,RL502	25065563 or 25065590 or 25065618	NRL-2P5A-DC24-129 or NRL-2P8A-DC24-144 or NRL-2P5A-DC24-158
Socket		
P501	2009990572AUL	NSAS-14P0781
Terminal		
P502	25060296 or 25060304	NTM-8PDMN227 or NTM-8PDMN235


U4

SURROUND SPEAKER TERMINAL PC BOARD
(NAETC-6792-2A/2B/2C/2D)

CIRCUIT NO.	PART NO.	DESCRIPTION
Capacitors		
C625,C626,C1526	374721034	0.01uF+/-5%,50V, Plastic <PP,PA,GT,WR,WT>
Socket		
P602	2009990571AUL	NSAS-12P0780
Terminal		
P603	25060297 or 25060303	NTM-6PDMN228 or NTM-6PDMN234

PRINTED CIRCUIT BOARD PARTS LIST-3

NOTE: <DD> : 120V model only <494>: TX-DS494 only
 <DT> : Asian model only for 120V <490>: HT-R490 only
 <GT> : Asian model only for 230V
 <PP> : European model only
 <PA> : Australian model only
 <WT> : World wide model only
 <WR> : Chinese model only

NOTE: THE COMPONENTS IDENTIFIED BY MARK  ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

U6**SECONDARY TERMINAL PC BOARD
(NAETC-6795-2A/2B/2C/2D)**

CIRCUIT NO.	PART NO.	DESCRIPTION
	Resistors	
R991,R992	453530104	1ohm+/-5%,1/2W, Metal oxide
R993	4500229	0.1ohm+/-5%,1/4W, Metal oxide
	Sockets	
JL911A	25051107	NSCT-3P894
JL912B	25050281	NSCT-4P109
P921	2009990570AUL	NSAS-6P0779

U7**DISPLAY CIRCUIT PC BOARD
(NADIS-7043-1A/1B/1C/1D/1F)**

CIRCUIT NO.	PART NO.	DESCRIPTION
	FL tube	
Q7004	212218	15-B-80GNK
	Remote sensor	
U7001	241330 or 241337	PIC-26043E2 or PIC-37043E2
	ICs	
Q1001	22241297R2	BU1923F <PP>
Q7001	22241658R3	MPD780208GF-095-3BA
	Transistors	
Q7002	2216210R2 or 2214490R2	KRC104S or RN1404
Q7003	2216230R2 or 2214540R2	KRA103S or RN2403
	Diode	
D1001	223234R2 or 223269R2	1SS352 or 1SS355 <PP>
D7001	225290	SEL4110R
D7002	223234R2 or 223269R2	1SS352 or 1SS355
D7004	224490560R2 or 224550560R2	UDZ5.6B or UDZS5.6B
D7005-D7008	223234R2 or 223269R2	1SS352 or 1SS355
D7009	224490910R2 or 224550910R2	UDZ9.1B or UDZS9.1B
D7010	223234R2 or 223269R2	1SS352 or 1SS355
	Coils	
L7001-L7003	231237K220R2	NCH-1477
	Oscillators	
X1001	3010203 or 3010345	AF6146CG or HQS-3H2-04332-20 <PP>
X7001	3010242	CS5.00MGW
	Capacitors	
C1001	355780229	2.2uF,50V, Elect. <PP>
C1003	355721019	100uF,6.3V, Elect. <PP>
C7001	355780229	2.2uF,50V, Elect.
C7002	3000120	FMC0H104Z
C7004,C7005,C700	355721019	100uF,6.3V, Elect.
C7009,C7010	355780109	1uF,50V, Elect.
C7015	355741009	10uF,16V, Elect.
C7018,C7019	355721019	100uF,6.3V, Elect.
C7020	375524744	MMT50V-474J

CIRCUIT NO. PART NO. DESCRIPTION

	Switches	
S7101-S7107	25035652	NPS-111-S604
S7111,S7112	25035652	NPS-111-S604
S7113	25035652	NPS-111-S604 <494>
S7114-S7117	25035652	NPS-111-S604
S7121-S7127	25035652	NPS-111-S604
S7131-S7135	25035652	NPS-111-S604
	Sockets	
JL7001A	25051107	NSCT-3P894
JL7003A	25051109	NSCTT-5P896 <494>
P504	2009990580UL	NSAS-12P0789 <494>
P7001B	25052034 or 25050965 or 25051291 or 25051832 or 25052221	NSCT-25P1821 or NSCT-25P752 or NSCTT-25P1080 or NSCT-25P1619 or NSCT-25P2118
P702A	25052066 or 25050926 or 25051324 or 25051864 or 25052253	NSCT-20P1853 or NSCT-20P713 or NSCT-20P1113 or NSCT-20P1651 or NSCT-20P2150
P7206	2009990573UL 2009990574UL	NSAS-4P0782 <DD,PP,PA,GT,490> NSAS-6P0783 <WR,WT>
	Holder	
Q7004A	27190989A	(FL)


U8**MAIN PC BOARD
(NAAR-7044-1A/1B/1C/1D/1F)**

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q261	22241383R2	NJM4565M-D <494>
Q931	222780565JRC	NJM78M56FA
Q934	222780055	78M05HF
Q3151	22241221R2	TC9164AF
Q3301,Q3501	22241383R2	NJM4565M-D
	Transistors	
Q221,Q222	2215024	2SD1468S-R
Q223	2213510 or 2214350 or 2215770	DTA114ES or RN2202 or KRA102M
Q225	2215864 or 2212115 or 2213284	KTC3199-GR or 2SC2458-GR or 2SC1740S-R <PP>
Q932	2215975 2211455	KTA1266-GR 2SA1015-GR
	Diodes	
D901	22380285F or 22380022F	RS403M or RBV402
D931	224490620R2 or 224550620R2	UDZ6.2B or UDZS6.2B

PRINTED CIRCUIT BOARD PARTS LIST-4

NOTE: <DD> : 120V model only <494>: TX-DS494 only
 <DT> : Asian model only for 120V <490>: HT-R490 only
 <GT> : Asian model only for 230V
 <PP> : European model only
 <PA> : Australian model only
 <WT> : World wide model only
 <WR> : Chinese model only


CIRCUIT NO.	PART NO.	DESCRIPTION
D932	223234R2 or 223269R2	1SS352 or 1SS355
D933-D938	22380260 or 22380032 or 22380035	RL1N4003 or 1SR139-100 or GP104003E
D939	224493000R2	UDZ30B
D940,D941	22380260 or Capacitors	RL1N4003 or 10uF,16V, Elect. 3.3uF,50V, Elect. 2.2uF,50V, Elect.
C222	354741009	10uF,16V, Elect. <494>
C223,C226	354780339	100uF,6.3V, Elect. <494>
C224	354780229	100uF,6.3V, Elect. <494>
C267,C268	354741009	8200pF+/-5%, 50V, Plastic <494>
C269,C270	354721019	1800pF+/-5%, 50V, Plastic <494>
C273,C274	374728224	47uF,16V, Elect. <494>
C275,C276	374721824	10uF,16V, Elect. <494>
C277,C278	354744709	47uF,50V, Elect.
C279,C280	354741009	47uF,16V, Elect.
C3101,C3201	354784709	10uF,16V, Elect.
C3151,C3152	354744709	4700uF,35V, Elect.
C3307,C3308	354741009	1000uF,35V, Elect.
C923	3504213S	2200uF,16V, Elect.
C924	354761029S	10uF,16V, Elect.
C933	354742229S	220uF,35V, Elect.
C935,C944	354741009	
C936,C937	354762219	
R921-R924	453532294	0.22ohm+/-5%, 1/2W, Metal oxide
R925	453530274	2.7ohm+/-5%, 1/2W, Metal oxide
R932	453530224	2.2ohm+/-5%, 1/2W, Metal oxide
R933	453530104	1ohm+/-5%, 1/2W, Metal oxide
R934	443522204	22ohm+/-5%, 1/2W, Metal oxide
R941	443520824	8.2ohm+/-5%, 1/2W, Metal oxide
P261	25045333	NPJ-2PDBL185 <490>
P261	25045575 or 25045303	NPJ-4PDRW389 or NPJ-4PDBL162 <494>
JL7001B	25050280	Jacks
JL911B	25050267	NSCT-3P108
JL912A	25051108	NSCT-3P95
JL921A	25051109	NSCT-4P895
JL931A,JL961A	25051107	NSCT-5P896
P101A	25052024 or 25050955 or 25051281 or 25051822 or 25052211	NSCT-3P894 NSCT-15P1811 or NSCT-15P742 or NSCT-15P1070 or NSCT-15P1609 or NSCT-15P2108
P242A	25055705	NPLG-9P661
P303A,P305A	25055805	NPLG-16P761
P304A,P707A	25055804	NPLG-4P760
P306A,P706A	25055701	NPLG-5P657
P403	20022290820	NSAS-8P0854
P504B	2002E280630	NSAS-06P0904 <490>
P520	25052138	NSCT-7P2036
P704A	25055708	NPLG-12P664
P705A	25055712	NPLG-20P668
Q934A	27160145	Radiator RAD-51
Q934B	82143010	Screw 3P+10FN(BC)

NOTE: THE COMPONENTS IDENTIFIED BY MARK  ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

U9		
HEAD PHONE JACK PC BOARD (NAETC-7045-1A/1B/1C/1D/1F)		
CIRCUIT NO.	PART NO.	DESCRIPTION
P7003	Jack 25045514	YKB26-5005, Phones <494>
JL7003B	Holder 25051109	NSCT-5P896 <494>
U10		
MASTER VOLUME PC BOARD (NAETC-7046-1A/1B/1C/1D/1F)		
CIRCUIT NO.	PART NO.	DESCRIPTION
S7001	Rotary encoder 25065575	EC16B2425
P7001A	Sockets 25050931 or 25051329	NSCT-25P718 or NSCT-25P1118
U11		
TONE CONTROL PC BOARD (NAETC-7047-1A/1B/1C/1D/1F)		
CIRCUIT NO.	PART NO.	DESCRIPTION
C391,C392	Capacitors 374721534	0.015uF+/-5%, 50V, Plastic
R391,R392	Resistors 5104356 or 5132435	N14RLC100KW20Z or N14RGLC100KW20Z, Bass/Treble
P391A	Plug 25055139	NPLG-9P123
U12		
HOLDER PC BOARD (NAETC-7048-1A/1B/1C/1D/1F)		
CIRCUIT NO.	PART NO.	DESCRIPTION
P798,P799	Holders 27190540-1	HOLDER(CLAMP)
U13		
DSP CIRCUIT PC BOARD (NADG-7049-1A/1B/1C)		
CIRCUIT NO.	PART NO.	DESCRIPTION
Q203	ICs 22240373	BA7625
Q701	22241338R2	AK4110VF
Q703	22240935R2	TC7WU04FU
Q704	22241716R9	CS492604-CL
Q705,Q706	22274574ER2TO	TC74VHC574FT
Q707	22241590R3 or 22241591R3 or 22241592R3	MX23C2000-90-001 or MX27C2000(TX-DS494) or MX29F002T(TX-DS494)
Q708	222740077R2TO	TC74HCT7007AF
Q709	22278033ENE	MPC29M33HF
Q711	22241546R2	TC7WT241FU
Q801	22241341R3	AK4526A-VQ
Q802	22240981R2	TC9162AF
Q803-Q809	22241383R2 or 22240581R2	NJM4565M-D or NJM4565M
Q201,Q204	Transistors 2214373R2 or 2214374R2 or 2214375R2 or 2216183R2 or 2216184R2 or 2216185R2	2SA1162-O or 2SA1162-Y or 2SA1162-GR or KTA1504-O or KTA1504-Y or KTA1504-GR

PRINTED CIRCUIT BOARD PARTS LIST-5

NOTE: <DD> : 120V model only <494>: TX-DS494 only
 <DT> : Asian model only for 120V <490>: HT-R490 only
 <GT> : Asian model only for 230V
 <PP> : European model only
 <PA> : Australian model only
 <WT> : World wide model only
 <WR> : Chinese model only


NOTE: THE COMPONENTS IDENTIFIED BY MARK  ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

CIRCUIT NO.	PART NO.	DESCRIPTION
Q202,Q3690	2215410R2	RN1441
Q3691	2214540R2	RN2403
	Diodes	
D201,D202	223234R2 or	1SS352 or
	223269R2	1SS355
D801-D808	223234R2 or	1SS352 or
	223269R2	1SS355
	Coils	
L201	231237M022R2	NCH-1471
L701-L703	231237M022R2	NCH-1471
L704,L705	230921R2	BLM21B222SPT,Choke coil
L720-L722	231237M022R2	NCH-1471
L802,L803	231237M022R2	NCH-1471
	Oscillator	
X701	3010327 or	AT-4912.288MHz or
	3010320 or	AT-49 12.288MHz or
	3010335	AT-49H12.288MHz,Crystal
X702	3010324R2	CSTCV12.2MTJ0C4,Cera lock
	Capacitors	
C201-C203	354780229	2.2uF,50V, Elect.
C205,C206	354724719	470uF,6.3V, Elect.
C210,C701,C708	354721019	100uF,6.3V, Elect.
C3691	374721044	0.1uF+/-5%, 50V, Plastic
C740,C741	354721019	100uF,6.3V, Elect.
C788,C791	354724719	470uF,6.3V, Elect.
C807,C810	354721019	100uF,6.3V, Elect.
C811,C825	354741009	10uF,16V, Elect.
C816,C817	374721524	1500pF+/-5%, 50V, Plastic
C827,C829	354744709	47uF,16V, Elect.
C830,C831	354784709	47uF,50V, Elect.
C832	374721544	0.15uF+/-5%, 50V, Plastic
C833,C846,C847	374721524	1500pF+/-5%, 50V, Plastic
C834,C836	374726834	0.068uF+/-5%, 50V, Plastic
C835,C837	374726814	680pF+/-5%, 50V, Plastic
C840,C842	354744709	47uF,16V, Elect.
C844,C845	354784709	47uF,50V, Elect.
C848-C851	374726814	680pF+/-5%, 50V, Plastic
C854,C857,C868	354744709	47uF,16V, Elect.
C858,C859	354784709	47uF,50V, Elect.
C860,C861	374721524	1500pF+/-5%, 50V, Plastic
C862-C865	374726814	680pF+/-5%, 50V, Plastic
C871 ,C880,C882	354744709	47uF,16V, Elect.
C886	374721034	0.01uF+/-5%, 50V, Plastic
C894,C896	354744709	47uF,16V, Elect.
	Jacks	
P201	25045567	NPJ-1PDBL382
P202	25045315	NPJ-2PDYE172
P203	25045299	NPJ-3PDYE158
	Sockets	
P702B	25052029 or	NSCT-20P1816 or
	25050960 or	NSCT-20P747 or
	25051286 or	NSCT-20P1075 or
	25051827 or	NSCT-20P1614 or
	25052216	NSCT-20P2113
P704	25051237	NSCT-12P1027
P705	25051241	NSCT-20P1031
P706	25051230	NSCT-5P1020
P707	25051526	NSCT-4P1313
	Plug	
P701A	25055136	NPLG-6P120

U14		
INPUT TERMINAL PC BOARD (NAAF-7050-1A/1B/1C/1D/1F/1G/1H)		
CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q301	22240864	TC9273N-004
Q302,Q3181,Q3183	22241383R2	NJM4565M-D
Q3171	22241371	TC9482N
Q3281,Q3381,Q3581	22241383R2	NJM4565M-D
	Transistors	
Q3182,Q3184	2213632 or	RN1241-B or
	2213631	RN1241-A
Q3185	2214350 or	RN2202 or
	2213510 or	DTA114ES or
	2215770	KRA102M
Q3282,Q3284	2213632 or	RN1241-B or
	2213631	RN1241-A
Q3384,Q3484	2213632 or	RN1241-B or
	2213631	RN1241-A
Q3584,Q3684,Q3685	2213631 or	RN1241-A or
	2213632	RN1241-B
	Diodes	
D401,D402,D3182	223234R2 or	1SS352 or
	223269R2	1SS355
	Capacitors	
C315,C316	354744709	47uF,16V, Elect.
C3171,C3271	354781009	10uF,50V, Elect.
C3172,C3173	354744709	47uF,16V, Elect.
C3181,C3281	354782209	22uF,50V, Elect.
C3183,C3188	354744709	47uF,16V, Elect.
C3189,C3289	374721534	0.015uF+/-5%,50V, Plastic
C3190,C3196	354741009	10uF,16V, Elect.
C3194,C3195	354744709	47uF,16V, Elect.
C321,C322	354784709	47uF,50V, Elect.
C323,C324	354744709	47uF,16V, Elect.
C3283,C3288	354744709	47uF,16V, Elect.
C3290,C3394,C3395	354741009	10uF,16V, Elect.
C3371,C3381	354781009	10uF,50V, Elect.
C3388,C3488	354744709	47uF,16V, Elect.
C3471,C3481	354781009	10uF,50V, Elect.
C3571,C3581	354781009	10uF,50V, Elect.
C3588,C3688	354744709	47uF,16V, Elect.
C3594,C3595	354741009	10uF,16V, Elect.
C3671,C3681	354781009	10uF,50V, Elect.
C3687	374724734	0.047uF+/-5%,50V, Plastic
	Jacks	
P301,P302	25045300 or	NPJ-6PDBL159 or
	25045571	NPJ-6PDRW386
P7202	25045645	NPJ-2PDO450 <494>
	Sockets	
P303,P305	25051527	NSCT-16P1314
P304	25051526	NSCT-4P1313
P306	25051230	NSCT-5P1020
P391	2009990579UL	NSAS-16P0788
P601	2009990652UL	NSAS-10P0907




















PRINTED CIRCUIT BOARD PARTS LIST-6

NOTE: <DD> : 120V model only <494>: TX-DS494 only
 <DT> : Asian model only for 120V <490>: HT-R490 only
 <GT> : Asian model only for 230V
 <PP> : European model only
 <PA> : Australian model only
 <WT> : World wide model only
 <WR> : Chinese model only

NOTE: THE COMPONENTS IDENTIFIED BY MARK  ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.



U15**PRIMARY CIRCUIT PC BOARD**

(NAPS-7051-1A/1B/1C/1D/1F/1G/1H)

CIRCUIT NO.	PART NO.	DESCRIPTION
Transistor		
Q951	2213640 or 2215830	DTC123JS or KRC105M
Diodes		
D951	22380260 or 22380032 or 22380035	RL1N4003 or 1SR139-100 or GP104003E <PP,PA,WT,GT,WR>
D952	22380260 or 22380032 or 22380035	RL1N4003 or 1SR139-100 or GP104003E
D953,D954	22380260 or 22380032 or 22380035	RL1N4003 or 1SR139-100 or GP104003E <PP,PA,WT,GT,WR>
D955	223234R2 or 223269R2	1SS352 or 1SS355
Transformer		
T902	2301381 2301382 2301383	 NPT-1358D <DD,490>  NPT-1358P <PP,PA>  NPT-1358DG <WT,GT,WR>
Capacitors		
C902	3500196S	 RE275V-103M
C952	354753319	330uF,25V, Elect.
Resistors		
R901	431533355	 RC1/2GFKUL-3.3M <DD,490>
R951	453530824	8.2ohm+/-5%, 1/2W, Metal oxide <PP PA WT GT WR>
Relay		
RL901	25065561 or 25065515 or 25065526	 NRL-1P5A-DC12-127 or  NRL-1P5A-DC12-096 or  NRL-1P5A-DC12-102
Switch		
S902	25065437	 NSS-22157P <WT,WR>
Sockets		
JL961B	25050267	NSCT-3P95
P903	25051125 25051126 25052115 25052381	 NSCT-4P912 <PP,WT,GT>  NSCT-4P913 <DD,490>  NSCT-2P2013 <PA>  NSCT-2P2278 <WR>
Plugs		
P901A	25056028 or 25055675	 NPLG-2P0978 or  NPLG-2P631
Fuse holders		
F911B,F911A	25052133 or 25052609	 NSCT-1P2031 or  NSCT-1P2506
F922A,F922B	25052133 or 25052609	 NSCT-1P2031 or  NSCT-1P2506 <DD,WT,490,WR>

U16**POWER SWITCH PC BOARD**

(NASW-7052-1B/1B/1C/1D/1F/1G/1H)

CIRCUIT NO.	PART NO.	DESCRIPTION
Capacitor		
C901	3500196S	 RE275V-103M
Switch		
S901	25035550	 NPS-111-L512P, Power

U19**REGULATOR CIRCUIT PC BOARD**

(NAPS-7055-1A/1B/1C/1D/1F/1G/1H)

CIRCUIT NO.	PART NO.	DESCRIPTION
C926-C928,C942	394541007	10uF,16V, Elect.
JL921B	25050269	NSCT-5P97
JL931B	25050267	NSCT-3P95
R926	452630564F	5.6ohm+/-5%, 1W, Metal oxide
R929	441623304F	33ohm+/-5%, 1W, Metal oxide
R938	453530104	1ohm+/-5%, 1W, Metal oxide



U20**VIDEO TERMINAL PC BOARD**

(NAETC-7056-1A/1B/1C/1D/1F/1G/1H)

CIRCUIT NO.	PART NO.	DESCRIPTION
ICs		
Q401,Q402	22240373	BA7625
Transistor		
Q403,Q404	2214375R2 or 2216185R2	2SA1162-GR or KTA1504-GR
Q405,Q406	2215410R2	RN1441
Capacitors		
C401,C411,C412	354780229	2.2uF,50V, Elect.
C402	354724719	470uF,6.3V, Elect.
C421,C422	354780229	2.2uF,50V, Elect.
C431,C432	354780229	2.2uF,50V, Elect. <494>
C443,C444	354721019	100uF,6.3V, Elect.
Resistors		
R409,R410	443521014	100ohm+/-5%, 1/2W, Metal oxide
Sockets		
P401	25051568	NSCT-12P1355 <490>
P401,P402	25051748	NSCT-8P1535 <494>
P403A	25055442	NPLG-4P424

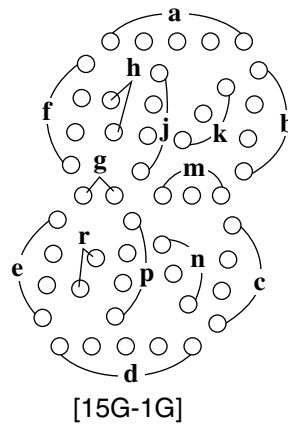
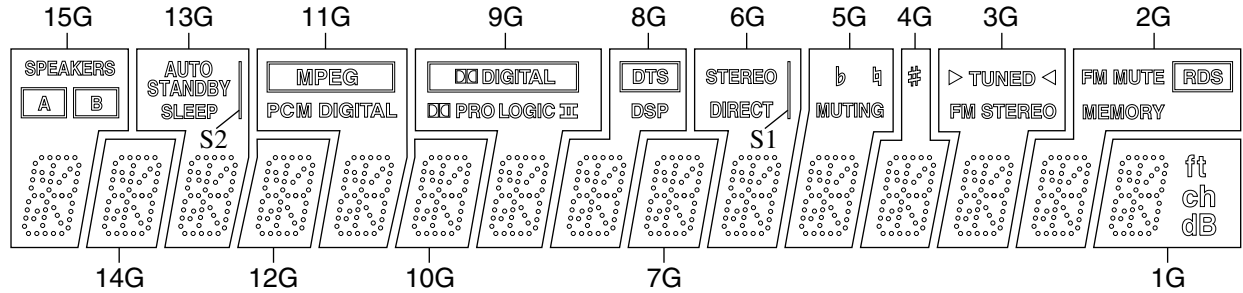
U21**MULTI CHANNEL INPUT TERMINAL PC BOARD**

(NAAF-7057-1A/1B/1C/1D/1F/1G/1H)

CIRCUIT NO.	PART NO.	DESCRIPTION
ICs		
Q341,Q343	22240293	NJM4558L-D
Q7201	222740046R2O	TC74HCU04F
Coils		
L7201,L7202	231237K470R2	NCH-1479
L7203	231237M022R2	NCH-1471 <494>
L7204	231237M022R2	NCH-1471
U7201	24120095	TORX179
Capacitors		
C7203,C7205	354721019	100uF,6.3V, Elect.
C347,C348	354741009	10uF,16V, Elect.
Sockets		
P242B	25051234	NSCT-9P1024
P341	25045649 or 25045572	NPJ-6PDBRW453 or NPJ-6PDBRW387
P701	2009990577UL	NSAS-12P0786
P7202	25045473	NPJ-1PDBL291 <490>
F933A,F933B	25052133 or 25052609	 NSCT-1P2031 or  NSCT-1P2506 <PP>

FL TUBE VIEW

Q7004: 15-BT-80GNK



	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17
1G	dB	ch	ft	a	h	j	k	b	f	m	g	c	e	r	p	n	d
2G	RDS	FM MUTE	MEMORY	a	h	j	k	b	f	m	g	c	e	r	p	n	d
3G	TUNED	▷ ◁	FM STEREO	a	h	j	k	b	f	m	g	c	e	r	p	n	d
4G	#	—	—	a	h	j	k	b	f	m	g	c	e	r	p	n	d
5G	b	b	MUTING	a	h	j	k	b	f	m	g	c	e	r	p	n	d
6G	STEREO	DIRECT	S1	a	h	j	k	b	f	m	g	c	e	r	p	n	d
7G	—	—	—	a	h	j	k	b	f	m	g	c	e	r	p	n	d
8G	DTS	DTS	DSP	a	h	j	k	b	f	m	g	c	e	r	p	n	d
9G	DIGITAL	DIGITAL	PRO LOGIC II	a	h	j	k	b	f	m	g	c	e	r	p	n	d
10G	—	—	—	a	h	j	k	b	f	m	g	c	e	r	p	n	d
11G	MPEG	MPEG	PCM DIGITAL	a	h	j	k	b	f	m	g	c	e	r	p	n	d
12G	—	—	—	a	h	j	k	b	f	m	g	c	e	r	p	n	d
13G	AUTO STANDBY	SLEEP	S2	a	h	j	k	b	f	m	g	c	e	r	p	n	d
14G	—	—	—	a	h	j	k	b	f	m	g	c	e	r	p	n	d
15G	SPEAKERS	A	B	a	h	j	k	b	f	m	g	c	e	r	p	n	d

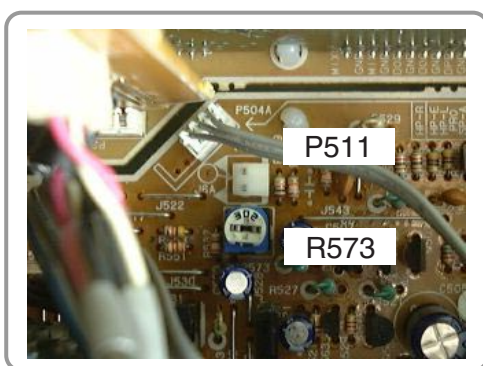
ADJUSTMENT PROCEDURES

IDLING CURRENT ADJUSTMENT

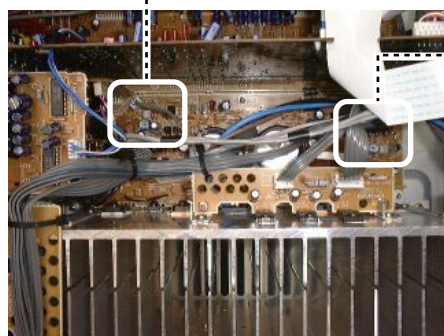
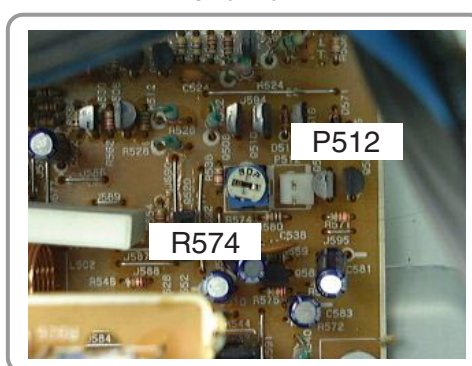
1. Before Idling adjustment, turn the trimming resistors R573, R574, R673, R674 and R1532 to counter clockwise.
2. Connect the DC voltmeter to sockets P511, P512, P611, P612 and P1511.
3. After turn POWER to ON, adjust the trimming resistors R573, R574, R673, R674 and R1532 so that the reading of voltmeter becomes 2.4 to 2.6 mV.
4. After adjustment, attach the top cover.
5. Confirm the voltage of above points after five minutes.
6. When 3.1 mV to 6.4 mV : Readjust the trimming resistors above so that the voltage becomes 6.5 to 6.7 mV.
When 6.5 mV to 7.5 mV : It is not necessary to adjust.
When 7.6 mV to 13 mV : Readjust the trimming resistors above so that the voltage becomes 7.5 to 7.7 mV.

[Note] No load and No signal

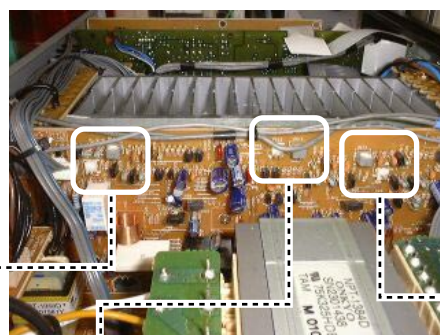
Front Lch



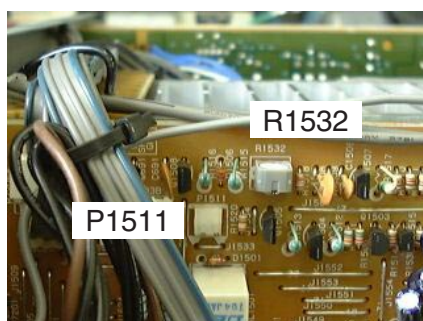
Front Rch



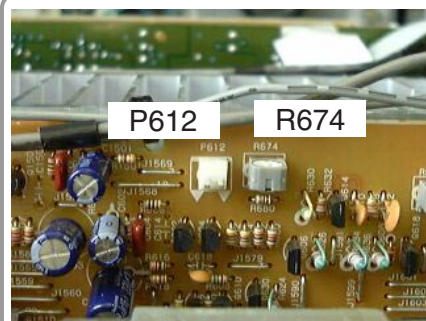
→ Front side



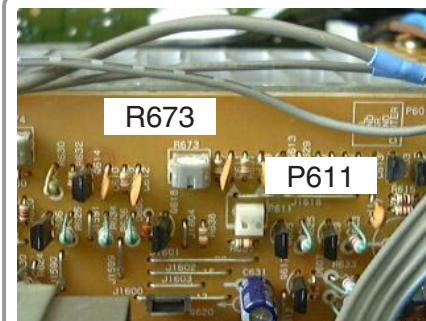
→ Front side



Center ch



Surround Rch



Surround Lch

CONFIRMATION

CONFIRMATION OF PROTECTION CIRCUIT

1. Confirmation of speaker relay

Confirm that the speaker relay turns ON approximate 5 seconds after the power switch is turned ON.

Confirm that the speaker relay turns OFF immediately after the power switch is turned OFF.

2. Confirmation of DC detection circuit

1. Press and hold down CD button, then press SPEAKERS A and SPEAKERS B buttons at the same time.

2. Press DVD button, while "TEST-1_" on the FLtube is displayed.

During "TEST-1-00" on the FL tube is displayed.

3. Press SPEAKERS A button

During "TEST-1-01" on the FL tube is displayed.

4. Apply DC 1.5~3V to MULTI CHANNEL INPUT terminals with no load.

Confirm that the speaker relay turns OFF.

5. Apply DC -1.5~3V to MULTI CHANNEL INPUT terminals with no load.

Confirm that the speaker relay turns OFF.

3. Confirmation of Current detection circuit

1. Press and hold down CD button, then press SPEAKERS A and SPEAKERS B buttons at the same time.

2. Press DVD button, while "TEST-1_" on the FLtube is displayed.

During "TEST-1-00" on the FL tube is displayed.

3. Press SPEAKERS A button

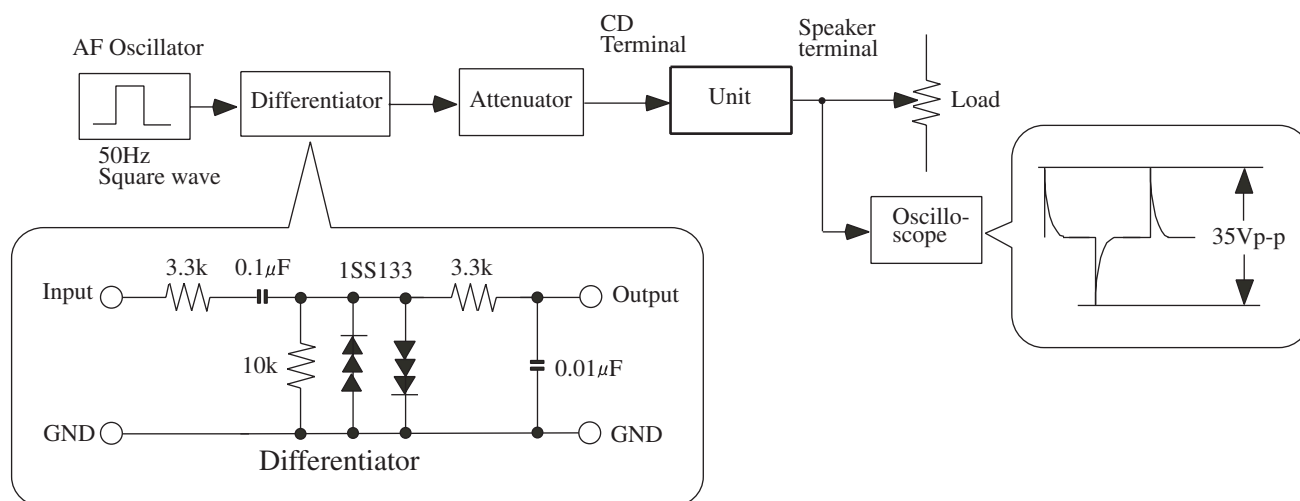
During "TEST-1-01" on the FL tube is displayed.

4. Connect Differentiator below and apply the 50Hz square signal to the MULTI CHANNEL INPUT terminals.

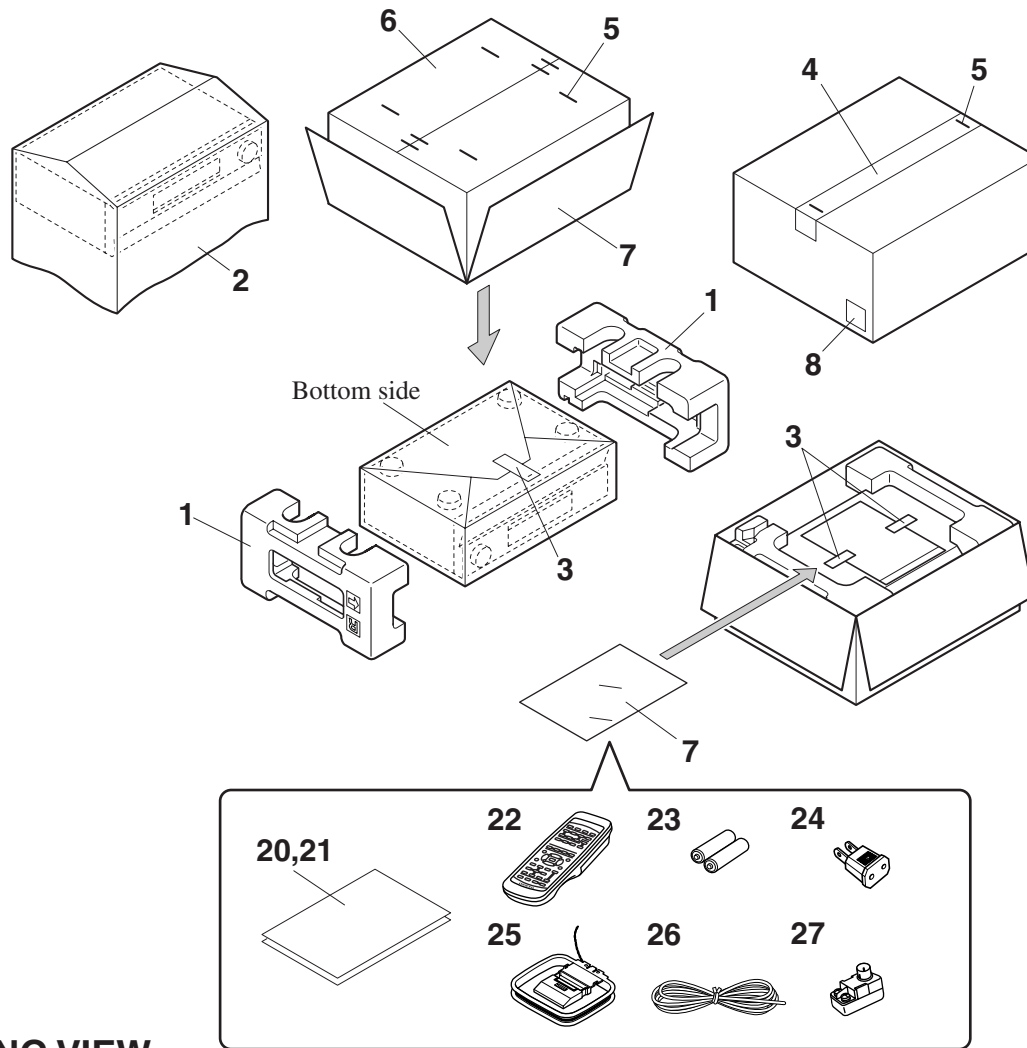
5. Adjust the attenuator or Volume so that the output level becomes 35V p-p.

6. Confirm that the speaker relay does not turn OFF when a 3.0 ohm load is connected.

7. Confirm that the speaker relay turns OFF when a 1.0 ohm load is connected.



PACKING VIEW



PACKING VIEW

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	29091972B	Pad AS	21	29365090	Warranty card <DD,490>
2	29100034-1A	Polybag, 585 x 650		29365042	Warranty card <PA>
3	261504	Paper tape, W30	22	24140444	RC-444M, Remote controller <DD>
4	29110098	PP Tape		24140443	RC-443M, Remote controller <PP, WT, WR, PA>
5	282301	Staple		24140446	RC-446M, Remote controller <490>
6	29100097-1A	Polybag, 350 x 250	23	3010054	UM-3, Battery
7	29053700A	Carton box <DD>	24	25055018 or	
	29053701A	Carton box <S> <PP>		25056005	CV plug, CV-K-1 <WT>
	29053702A	Carton box <WT, WR>	25	232140	AM Loop antenna, NMA-3057
	29053703A	Carton box <PP>	26	292115	FM antenna <PP,WR,WT,PA,GT>
	29053704A	Carton box <G> <PA,WT,WR>		292142	FM antenna <DD,490>
	29053706A	Carton box <490>	27	25065462	FM Antenna adapter YAE21-0237 <WT,WR,PA>
8	29362794	Label, UPC <DD>	[NOTE] <DD> : 120V model only <DT> : Asian model only for 120V <GT> : Asian model only for 230V <PP> : European model only <WT> : World wide model only <WR> : Chinese model only <494> : TX-DS494 only <490> : HT-R490 only : Black model only <S> : Silver model only <G> : Golden model only		
	29362795	Label EAN <PP, WT, WR, PA>			
	29362796	Label EAN <S> <PP>			
	29362797	Label EAN <G> <PA, WR, WT>			
	29362808	Label EAN <490>			
20	29343037	Instruction manual E <DD,PP,WT,WR,GT,PA>			
	29343046	Instruction manual E <490>			
	29343038	Instruction manual DIG-E <DD>			
	29343047	Instruction manual DIG-E <490>			
	29343039	Instruction manual U3GDSw <PP>			
	29343050	Instruction manual U2CTCS <WT, WR, GT>			
	29343040	Instruction manual U3FSI <PP>			

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